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(CENSUS OF INDUSTRY, 1919)

Electric power statistics

CENTRAL ELECTRIC STATIONS IN CANADA

1919

(Prepared in collaboration with the Dominion Water Power Branch,
Department of the Interior, with the assistance of the Ontario
Hydro-Electric Power Commission, the Quebec Streams
Commission, the New Brunswick Electric Power
Commission and the Nova Scotia
Power Commission)



OTTAWA
F. A. AGLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1922

CANADA
DOMINION BUREAU OF STATISTICS

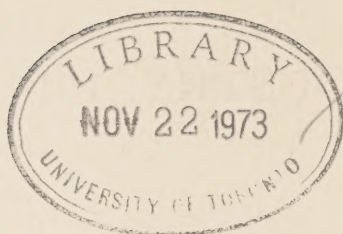
CENSUS OF INDUSTRY, 1919 -1929

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IN CANADA

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CENSUS OF INDUSTRY, 1919

CENTRAL ELECTRIC STATIONS.

Preface.

The statistics in this report on the Central Electric Station Industry of Canada have been collected and compiled under a co-operative arrangement between the Dominion Bureau of Statistics and the Dominion Water Power Branch, Department of the Interior. The Ontario Hydro-Electric Power Commission also gave valuable assistance in collecting and checking the returns of the numerous stations under its jurisdiction, whilst the Quebec Streams Commission, the New Brunswick Electric Power Commission and the Nova Scotia Power Commission assisted in the furnishing of lists of stations. The report has been compiled under the direction of Mr. G. S. Wrong, B.Sc., of the Dominion Bureau of Statistics, and both the report and the returns have been checked under direction of Mr. J. T. Johnston, Assistant Director of Water Power, by Mr. Alexander Roger, engineer of the Dominion Water Power Branch.

The cordial thanks of the Bureau are tendered to these branches, and to the managers of Central Electric Stations for their co-operation in supplying the somewhat intricate details called for on the schedules.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, November 9, 1921.

NOTE ON CANADIAN WATER-POWERS.

Canada is richly endowed with water-power resources. Practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within easy transmission distance ample reserves of water-power. *Over 90 per cent of the prime motive power of the central electric station industry of Canada is hydro power.*

The administration of the water resources of the Dominion is a divided federal and provincial responsibility. In Alberta, Saskatchewan, Manitoba, and the Yukon and Northwest Territories, control is vested in the Dominion Water Power Branch, Department of the Interior. Throughout the remainder of Canada, administration is carried out by the following respective provincial authorities: British Columbia, Department of Lands; Ontario, Department of Lands and Forests; Quebec, Department of Lands and Forests; Nova Scotia, Commissioner of Public Works and Mines; New Brunswick, Department of Lands and Mines; Prince Edward Island, Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission, formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. In 1919 the commission was delivering power to 217 municipalities and was operating in all fourteen power plants, developing a total of 284,449 horse-power. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In Manitoba the commission purchases power from the city of Winnipeg and transmits it to Portage la Prairie and other towns in the southern part of the province. In New Brunswick and Nova Scotia the commissions are engaged in the development of hydro-electric powers which will serve in the near future the cities of St. John, N.B., and Halifax, N.S. In the province of Quebec there is no Government commission engaged in the production or distribution of electric energy. The Quebec Streams Commission is, however, actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

The Dominion Water Power Branch, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful reanalysis and

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computation by the branch, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hr. power at 80 p.c. efficiency		Turbine installation h.p.
	At ordinary min. flow h.p.	At est. flow for max. dev. (dependable for 6 mos. h.p.)	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	304,535
Alberta.....	475,281	1,137,505	32,492
Saskatchewan.....	513,481	1,087,756	
Manitoba.....	3,270,491	5,769,444	83,447
Ontario.....	4,950,300	6,808,190	1,052,048
Quebec.....	6,915,244	11,640,052	925,972
New Brunswick.....	50,406	120,807	21,180
Nova Scotia.....	20,751	128,264	35,774
Prince Edward Island.....	3,000	5,270	1,933
Yukon and Northwest Territories.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,470,580

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. That Canada possesses 18,225,000 continuous twenty-four-hour horse-power available for exploitation, while for at least six months in the year this total rises to 32,076,000, may be regarded as a minimum statement.

The water-wheels installed throughout the Dominion total 2,470,580 horse-power. A detailed analysis of the relationship between this installed power, taking into consideration local pondage and load factors, and the corresponding available water-power, indicates that the *at present recorded available water-powers* of the Dominion will permit of a turbine installation of 41,700,000 horse-power. In other words, the present turbine installation represents only 5.9 per cent utilization of the present recorded water-power resources. In support of this statement it may be said that the detailed analyses made of the water-power resources of the provinces of New Brunswick and Nova Scotia have disclosed most advantageous reservoir and pondage facilities for regulating stream flow, and it is estimated that, allowing for the diversity factor between installed power and consumers' demands, the two provinces possess respectively 300,000 and 300,000 commercial horse-power as against the lower figures given in the table.

With a water-power development of 275 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources, being surpassed on this basis by Norway alone. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, November 9, 1921.

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INTRODUCTION AND SUMMARY.

The following report presents a detailed statistical analysis of the results of the third annual census of the central electric station industry in Canada and shows the status of the industry complete to January 1, 1920.

The extent of the development of the central electric station industry in Canada may be realized from the fact that in order of capital investment it not only ranks first among the basic industries of the country but has a lead of over fifty per cent over the next in order as indicated in the following list:—

Industry	Capital invested, 1919
	\$
Central electric stations.....	416,000,000
Pulp and paper mills.....	275,000,000
Lumber mills.....	231,000,000
Iron foundries.....	100,000,000
Meat packing plants.....	93,000,000
Flour mills.....	76,000,000
Coal mines.....	63,000,000
Cotton mills.....	58,000,000
Boot and shoe factories.....	38,000,000
Woollen mills.....	21,000,000

The disparity between the capital invested in the central electric station industry and that invested in the general manufacturing industries becomes even more marked when it is considered that the capital investment of the latter includes the value of all raw materials on hand for manufacturing, stock in process and finished products on hand.

Comparison of the figures of this report with those of the first and second census shows that many important changes and developments have taken place in the industry. Evidence of the tendency towards consolidation so apparent in other lines of business is found in the fact that there is a marked increase in the proportion of non-generating stations to generating stations.

A considerable number of new stations have been completed and placed in operation during the year. Work has been pushed vigorously on stations under construction and the construction of several new stations commenced. In addition a number of existing central stations are increasing their capacities by installing additional units or replacing existing units by larger ones.

In Ontario the Nipigon plant of the Ontario Hydro-Electric Power Commission has been completed, the first delivery of power being made to Port Arthur December 20, 1920. The High Falls development of the commission was also completed, the first delivery of power therefrom taking place May 1, 1920. Work on the great Chippewa-Queenston construction has been rushed and it is expected that power will be delivered before the end of 1921. Work has been commenced by the commission on a 10,000 horse-power at Campbellford to keep pace with the rapidly increasing demand on the Central Ontario System.

Two new turbines of 20,000 horse-power each have been installed in the Ontario Power Company's plant at Niagara Falls, bringing the plant up to its ultimate designed capacity of 228,200 horse-power. A third 5,600 horse-power turbine has been installed in the Healy Falls plant of the Central Ontario System of the Ontario Hydro-Electric Power Commission, which completes the primary power installation of this system to its ultimate designed capacity.

In Quebec, La Corporation d'Énergie de Montmagny have installed and are operating a plant developing 3,600 horse-power on the Rivière du Sud at St. Raphaël, fourteen miles from Montmagny. The Cedars Rapids Manufacturing and Power Company are installing two units of 10,800 horse-power each. The Shawinigan Water and Power Company are installing one unit of 42,000 horse-power in the Shawinigan Falls plant and the Laurentide Power Company two of 21,000 horse-power each in the Grand Mère plant, both plants being operated by the first-named company. The municipality of Sherbrooke is installing a 1,700 horse-power turbine in their Weedon plant, La Société d'Éclairage et d'Énergie Électrique du Saguenay have added two turbines at 2,400 horse-power each to the equipment of their Chicoutimi plant, and the Southern Canada Power Company have just completed rebuilding their Drummondville plant, increasing its capacity to 7,000 horse-power.

In Manitoba, the Winnipeg River Power Company are proceeding with their development at Great Falls. In the city of Winnipeg's plant at Point du Bois, three new turbines of 6,900 horse-power each are being installed. Extensive replacement work has also been done by the Winnipeg Electric Railway Company on the equipment of their Pinawa plant.

In Nova Scotia and New Brunswick extensive works are under way by the local Government commissions. The Nova Scotia Power Commission have underway on the Northeast and Indian Rivers at St. Margarets Bay, an installation of 15,000 horse-power to serve Halifax and vicinity, while the New Brunswick Electric Power Commission are developing a site at the head of tide on the Musquash river to develop 11,100 horse-power. The Bathurst Lumber Company are installing a hydro-electric plant at their pulp and saw-mills at Grand Falls, on Nipisiguit river, and are selling a block of 500 horse-power to the New Brunswick Electric Power Commission pending the development of a site on the Tetagouche river controlled by the commission. This current is being distributed by the Commission in Bathurst and Newcastle.

In addition numerous small plants are being installed throughout the country and small plants already in existence are being enlarged and modernized.

Scope and Character of Present Report.

For census purposes a central electric station is defined as a station or organization which sells or distributes electrical energy. The energy distributed may be generated by the organization distributing it; it may be purchased wholesale from some other organization or part of it may be purchased and part generated by the organization selling it. Organizations generating all or part of the power they distribute are classed as generating stations, while those purchasing all the power they distribute are classed as non-generating stations. Each of these fundamental types of station is divided according to character or ownership into commercial or privately-owned and municipal or publically-owned stations. The generating stations are still further classified according to type of primary power used into hydro-power and fuel-power stations.

Under this definition each individual generating plant and each separate organization distributing electrical energy is listed as a separate central electric station, even though a number of generating stations or distributing agencies may be operated by one organization, such for instance as the various provincial power commissions. It follows from this that the number of stations listed exceeds the actual number of public and private corporations engaged in the distribution and sale of electrical energy.

This report presents, therefore, an analysis of the central station industry, i.e., the industry of developing electrical energy for sale or distribution. It does not include data on electrical energy directly developed and used for other purposes, such as for the operation of other industries.

The ease with which electrical energy may be transmitted, its adaptability to almost all kinds of domestic, industrial and commercial uses and the manner in which its generation for lighting provides advantageous use for primary power during the ordinary nonworking hours of industrial plants, makes the task of securing accurate data of the central electric station industry very difficult. The analysis of this data is complicated by the difficulty of segregating the amount of their investment, revenue, salaries and wages, general expenses, etc., chargeable to purely central electric station operations, by the large number of corporations with whom the generation of electrical energy for sale forms only a very small portion of their industrial activities. In the case of such composite industries great care has been taken to allocate to the central electric station industry only that proportion of capital investment, revenue, expenses, salaries and wages, etc., chargeable directly thereto. In some cases the only possible method of allocation was by pro-rating the totals on the basis of total energy sold to total energy generated after making due allowance for investment in and operation of transmission and distribution systems and other purely central station items.

The adaptability of electrical energy to long-distance transmission has introduced greatly involved conditions in the industry. This may be illustrated by the case of one well known company which while operating its own plants operates under lease a plant owned by another company; operates an extensive system of transmission lines; sells both electrical energy and mechanical energy direct to consumers; sells blocks of power to its subsidiary companies, some of which in turn operate their own generating stations, and also sells power in bulk to independent central electric stations of both generating and non-generating types, some of which operate transmission systems almost as complex as that of the company under consideration. The operations of the Ontario Hydro-Electric Power Commission also provide an example of the interconnection of central electric stations.

Included in the statistics is the data for forty fuel-power plants operated as auxiliary to hydro-generated power. Of these thirty-nine are auxiliary to hydro-power stations and one to a non-generating station buying power for distribution from a hydro-electric organization. While it has been possible to keep a separate account of the mechanical equipment of these stations, all financial data is necessarily included with that given for the main plants.

Owing to the necessity of limiting the size of the report it has been found advisable to modify the form of the tables from that previously used.

General Summary.

Summary of Principal Items.—The principal statistics of the central electric station industry are summarized in table 1, and an interesting comparison drawn between the figures for 1919 and 1918 according to ownership and type of station. As the data relating to the mileage of pole lines and the total number of kilowatt hours generated was not compiled and the value of the free service not obtained from the central electric station operation for the year 1918, comparison of these items with the figures for 1919 cannot be made.

The total number of stations from whom reports were received for the year ending December 31, 1919, is 805, of which 358, or 44.5 per cent are commercially and 447, or 55.5 per cent, municipally owned.

Four hundred and ninety-three, or 61.27 per cent of the total number of stations, have electric generating machinery installed and generate all or part of the energy they distribute, while 312, or 38.8 per cent, do not operate any generating machinery but purchase all of the power they sell en bloc from some other station or stations. It will be noted that while commercial stations predominate among the generating organizations the reverse is the case with

the non-generating. This disparity is largely due to the practice of the Ontario Hydro-Electric Power Commission of selling blocks of power to local municipal commissions for distribution, 217 of the 260 municipal non-generating stations listed being accounted for in this way.

Of the 493 generating stations 272, or 55.2 per cent, derive their power from water and 221, or 44.8 per cent, from fuel. In considering this fact the total primary power installation of the two types of plant, as set forth further on in the report, should be borne in mind. While very nearly half of the total number of plants depend on fuel as a source of power, over 91 per cent of the total development is in hydro stations.

The total capital invested in the central electric station industry is \$416,512,010, of which \$371,616,056 represents the cost of actual power development, made up as follows: \$157,375,358, including the cost of sites and water rights for generating stations; sites for sub-stations and receiving and transforming stations and rights of way for transmission and distribution systems and pipe lines or flumes; construction of buildings, dams, penstocks and flumes; \$123,762,689, the cost of all mechanical equipment in main and auxiliary power plants, sub-stations and receiving stations, and \$90,478,009, the total cost of all transmission and distribution equipment. Materials on hand and miscellaneous supplies represent an investment of \$6,702,219, while cash on hand, trading and operating accounts and bills receivable, amount to \$38,193,735. Of this total, \$287,558,443, or 69 per cent, is invested in commercial stations and \$128,953,567, or 31 per cent, in municipal stations. \$365,389,364, or 87.7 per cent, of this total is invested in generating and \$51,122,646 in non-generating stations.

The total revenue received from the sale of electrical energy was \$57,853,392, of which \$35,552,867, or 61.5 per cent, was paid to commercial stations and \$22,300,525, or 38.5 per cent, to municipal stations. Of the total revenue, \$45,420,566, or 79 per cent, was earned by generating and \$12,432,826, or 21 per cent, by non-generating stations. In this connection it might be pointed out that, while this latter item represents revenue from the resale of power purchased en bloc for distribution, it does not include the total revenue from this source. Many of the generating stations also purchase considerable amounts of power to supplement their own output, but it is not possible to segregate the revenue obtained from the resale of the power from their total revenue.

Various central electric station organizations reported distributing power for which no charge was made. The value of this free service at prevailing commercial rates totalled \$267,441 and was given for lighting streets, parks, public buildings, etc., usually in return for some concession as to franchise fixed assessment, freedom from taxation, etc. Of this total \$37,514, or 14 per cent, was given by commercial stations and \$229,927, or 86.0 per cent, by municipal stations. Free service of an estimated value of \$202,221 was given by generating stations, while non-generating stations gave similar service to the value of \$65,220.

The total operating expenses, made up of salaries and wages; cost of fuel, rent of offices, plants or machinery; cost of electrical energy purchased in bulk for distribution; insurance premiums; all, taxes; advertising and travelling expenses; cost of all repairs to buildings and plant and all sundry expenses, amounted to \$34,341,923, of which \$19,201,892, or 55.9 per cent, was incurred by commercial stations, and \$15,140,031, or 44.1 per cent, by municipal stations. The total operating expenses of the generating stations amounted to \$24,281,570 and of the non-generating stations to \$10,060,353.

Included in the total operating expenses is \$9,919,902 paid for electrical energy purchased in bulk for distribution. Of this amount \$3,505,288, or 35.3 per cent, was paid by commercial and \$6,414,614, or 64.7 per cent, by

municipal stations. This energy is purchased en bloc from several central electric stations whose reports are included in the statistics herein, by both non-generating and generating organizations. The cost of the current purchased by non-generating stations is \$5,468,782, by generating stations, \$4,451,120.

The total number of persons employed was 9,656, with salaries and wages aggregating \$11,487,132. Commercial stations employed 5,168 persons and paid \$5,989,049, or an average of \$1,159 per person, while municipal stations employed 4,488 persons at \$5,498,083, or an average of \$1,225 per person. Owing to the fact that many of these individuals are only employed for a short time each day or for repairs, meter reading or collections at irregular intervals, these averages do not present an altogether correct idea of the salaries and wages paid. This is particularly the case with non-generating municipal organizations and composite stations where the sale of electrical energy is only incidental to some other industry.

The transmission and distribution systems of the various organizations reporting total 18,911 miles, made up of pole and tower lines and conduits, no account being taken of the wire or circuit mileage which, of course, would be much greater. Of the total, 7,419 miles were used solely for transmission and 11,492 miles for distribution purposes.

Commercial stations operated 11,229 miles and municipal stations 7,682. Generating stations operated 14,556 miles and non-generating stations 4,355 miles.

The total generator output of electrical energy was reported as 5,497,204,000 kilowatt hours. In this connection it must be mentioned that some of the smaller stations did not have the necessary intergrading meters for measuring the output. The dynamo capacity of these non-reporting stations equalled about 8 per cent of the total dynamo capacity, but the percentage of deficiency in the total output would be much less than 8 per cent, as owing to the character of the stations the generators would probably be operated for only a part of each day.

The aggregate capacity of all primary power machines reported is 2,024,918 horse-power, of which 1,907,135 horse-power is installed in main plants and 117,783 horse-power in auxiliary or stand-by plants. Of the total for the main plants, 1,428,918 horse-power, or 74.9 per cent, is installed in commercial stations and 478,217 horse-power, or 25.1 per cent, in publicly-owned stations. Practically the same percentages of ownership obtain in the case of the auxiliary plants. The summary of the number and total capacity of the various types of prime movers installed together with the analytical tabulation of these units in the various tables of this report, provide complete data for the study of this particularly interesting branch of the statistics.

The total main plant primary power installation of 1,907,135-horse-power is made up as follows: steam-engines and steam-turbines, 155,933 horse-power of which 43.5 per cent is installed in commercial and 56.5 in municipal plants; water-wheels and turbines, 1,736,981 horse-power, of which 78.1 per cent is installed in commercial and 21.9 per cent in municipal plants; and internal combustion engines, 14,221 horse-power, of which 33.6 per cent is installed in commercial and 66.4 per cent in municipal plants. The total primary power installation of the auxiliary plants is 117,783 horse-power, made up as follows: steam reciprocating engines, 15,060 horse-power; steam-turbines, 102,500, and gas and oil engines, 223 horse-power.

The total generator capacity of the main plants is 1,487,790 kilovolt-amperes, of which 1,112,494 kilovolt-amperes is installed in commercial and 375,296 kilovolt-amperes in municipal stations. Alternating current generators account for 1,474,969 kilovolt-amperes of the total and direct current generators for 12,821 kilowatts. The generator capacity of the auxiliary plants totals 88,395 kilovolt-amperes.

Analysis of Stations.

Table 2 is designed to show the total number of central electric stations in Canada and in each of the provinces of Canada according to ownership and type of station. Of the 805 stations reported 380, or 47.2 per cent, are in Ontario; 146, or 18.1 per cent, in Quebec; 61, or 7.6 per cent, in Saskatchewan; 59, or 7.3 per cent, in British Columbia; 52, or 6.5 per cent, in Alberta; 40, or 5.0 per cent, in Nova Scotia; 29, or 3.6 per cent, in Manitoba; 25, or 3.1 per cent, in New Brunswick; 9, or 1.1 per cent, in Prince Edward Island; and 4, or 0.5 per cent, in the Yukon Territory.

While Ontario's very high proportion of stations is largely due to the method of distribution employed by the Ontario Hydro-Electric Power Commission, it will be noted that that province has also the greatest number of generating stations, 141, or 28.6 per cent of the total of 493 being within her boundaries. Quebec is next in order with 107, or 21.7 per cent of the total.

The generating stations are still further analysed in this table according to source of power, 272, or 55.2 per cent, deriving their power from water and 221, or 44.8 per cent, from fuel. In considering this fact the total primary power installation of the two types of plant as shown in table 1 should be borne in mind. While very nearly half of the total number of plants depend on fuel as a source of power, over 91 per cent of the total development is in hydro stations.

An interesting analysis of the number of generating stations in Canada and each of the provinces by types of prime movers or combinations of the different types of prime movers and also by types of secondary power and combinations thereof is also presented in this table. Out of the total of 493 generating stations, 233 rely solely on water as a source of power. Thirty-nine others develop power from water, but have fuel-power auxiliary equipments to provide for peak-load requirements, shortage of water, breakdowns, etc. One hundred and nine contain only steam reciprocating engines, 5 contain only steam turbines, while 13 have both steam engines and turbines installed. Eighty-seven stations depend entirely on internal combustion engines for their power, 6 on steam and gas or oil engines and 1 on steam turbines and gas or oil engines.

Four hundred and five stations have only alternating current generators installed, 73 have only direct current, and 15 have both alternating and direct current generators.

Financial Statistics.

The difficulty of obtaining definite figures of the central electric station operations of industrial organizations with whom the sale of surplus energy forms only a very small proportion of their business has already been referred to. In such cases every care has been taken to segregate the proportion of investment, revenue, expenses, employees, salaries and wages, equipment output, etc., chargeable directly to the central station from that properly chargeable to operation of the allied industry.

There are also two outstanding examples of dual operation in which the central electric station organization is likely to be of equal or greater magnitude than that of the allied industry. These are the supply of energy for the operation of street railways and water works pumping systems. In some cases the electric railway or water works system and the central station are operated by two different branches of the same organization, the central station being given a cash payment or a credit for the power supplied, thus obviating difficulty in securing separate statistics. In other cases the two operations are not separated, the equipment used for the street railway or water works' purposes being installed and operated with that used for purely central station purposes. Here careful estimates of the statistics of the central station activities have had to be made.

Capital Invested in Central Electric Station.

The total capital investment of the industry in Canada and each of the provinces is shown in table 3, a complete analysis according to ownership and type of station being made. From the total investment is also deduced the average investment per horse-power of primary power, including and excluding the primary power installation of auxiliary plants also the average investment per kilovolt-ampere of secondary power on a similar basis.

The total capital investment in the industry is \$416,512,010, of which \$157,375,358 represents investment in lands, buildings and fixtures; \$123,762,689 investment in mechanical equipment in main and auxiliary plants, \$90,478,009, the total cost of all transmission and distribution equipment, \$6,702,219, the total cost of all materials and supplies on hand and \$38,193,735, the total cash on hand, trading and operating accounts and bills receivable.

Of the total commercial stations reported an investment of \$287,558,443, of which \$275,581,372 was invested in stations operating generating equipment and \$11,977,071 in non-generating stations.

Municipal stations reported a total investment \$128,953,567, of which \$89,807,992 was invested in generating and \$39,145,575 in non-generating stations.

The total capital invested in non-generating stations amounted to \$51,122,646, while \$365,389,364 was invested in generating stations.

The average investment per horse-power of primary power in main plants in Canada is \$218 and per kilovolt-ampere of dynamo capacity, \$280. Including the equipment in auxiliary plants the corresponding figures are \$206 and \$264 respectively. As previously stated, it is impossible to segregate the financial statistics relating solely to auxiliary plants so that the capital invested per unit power, including the auxiliary plant equipment, provides the more logical basis of analysis. On the other hand the auxiliary plants in the majority of cases do not represent active power equipment but merely equivalent capacity held for emergency purposes.

Revenue from Sale of Power.

Table 4 presents an analysis of the total revenue from the sale of power in Canada and each of the provinces, the data being analysed according to ownership and type of station and also in each case as to whether the revenue was received from the sale of energy for lighting or for general power purposes. In considering the data set forth in this table it must be borne in mind that the figures given include the income received from the resale of electric energy purchased in bulk by one central station from another central station and that in some cases the sale and resale of the same energy supplies a revenue to as many as three separate stations before reaching the ultimate consumer. While it might be expected that the revenue received from the second or third sale of the power would be segregated in the revenues of non-generating stations, this is not altogether the case, as a considerable number of generating stations buy power in bulk from other stations to augment their supply or to provide for peak load requirements.

This table has also been extended to show the average revenue of generating stations per horse-power of primary power and per kilovolt-amperes of dynamo capacity, both including and excluding auxiliary plant equipment.

Free Service.

As outlined in the general summary, various central electric station organizations reported distributing a small proportion of their output for which no revenue was obtained. This power was given gratis to various municipalities or lighting streets, parks, public buildings, etc., usually in return for some

concession as to franchise, fixed assessment or freedom from taxation. The value of this power at prevailing commercial rates is shown in table 5.

This free service was naturally almost altogether given by municipal stations. Of current of a total estimated value of \$267,441 municipal stations gave 86 per cent and commercial stations 14 per cent.

Operating Expenses.

Table 6 contains a detailed analysis of the general operating expenses of the industry segregated according to type and ownership of the stations under the general headings, salaries and wages, cost of fuel for power generation and miscellaneous, the latter item including the amounts paid for power purchased in bulk for distribution. It is interesting to note that out of a total expenditure of \$9,919,902 for power, \$4,451,120, or 44.9 per cent of the total was paid by generating stations, as against \$5,468,782, or 55.1 per cent, by non-generating stations.

Employees and Wage-Earners.

In table 7 is shown a summary by provinces of the salaried officials and wage-earners of the different types of stations. Definite figures on employment in this industry are very difficult to arrive at on account of the fact that many non-generating stations employ only one or two individuals and even these sometimes only on part time, while on the other hand many generating stations have employees whose time is divided between the central station and the general mining, railway, water-pumping or manufacturing activities of the organization. In such cases careful estimates have had to be made and the number of individuals employed based thereon.

Classified Weekly Wages.

The wage earners of the industry are classified according to sex and wages in table 8 and an interesting comparison of wages by provinces thereby obtained. As might be expected the western provinces show a much greater percentage of their employees in the high wage classes than do the eastern.

British Columbia reports show that 97 per cent of the wage earners were paid \$20 or over per week; Saskatchewan, 92 per cent; Manitoba, 91 per cent; and Alberta, 84 per cent; whereas Prince Edward Island shows only 25 per cent in this category; Quebec, 59 per cent; Ontario, 62 per cent; Nova Scotia, 65 per cent, and New Brunswick, 70 per cent. Of the male employees, 22.8 per cent are paid wages of \$30 per week or over while 69.8 per cent receive \$20 per week or over.

Pole Line Mileage.

Total pole line mileage is analysed in table 9. The total mileage and the mileage of transmission and distribution lines are given for Canada and each of the provinces. Separate data is included for each province by type and ownership of stations.

Ontario leads with a total length of 7,908 miles, divided almost equally between transmission and distribution systems, Quebec being next with 4,094 miles, also almost equally divided between transmission and distribution. The preponderance of distribution over transmission lines is most marked in Saskatchewan. This province having no developed water has only 26 miles of transmission as against 510 miles of distribution line.

Power Equipment in Auxiliary Plants and Total Power Equipment.

In table 10 is listed for the Dominion and each of the provinces a detailed summary of the installed capacity of the different types of prime movers and of the electric generators in the auxiliary plants. The total equipment, that is main and auxiliary plant equipment, is also tabulated. As auxiliary plants are essentially of the fuel-power type the tabulation for water-wheels and turbines represents the installation in main plants only.

The aggregate capacity of all primary power machines in central electric stations in Canada is 2,024,918 horse-power, of which 1,907,135 horse-power is installed in main plants and 117,783 horse-power in auxiliary or stand-by plants.

The total steam-engine and steam-turbine capacity installed amounts to 273,493 horse-power, of which 155,933 horse-power is in main plants and 117,560 horse-power in auxiliary plants. The total gas and oil-engine capacity is 14,444 horse-power, of which 14,221 is in main plants and only 223 horse-power in auxiliary plants. Water-wheel and turbine installation is 1,736,981 horse-power, as compared with a total fuel-power installation of 170,155 horse-power. The total generator installation is 1,576,185 kilovolt-amperes, of which 88,395 kilovolt-amperes is installed in auxiliary plants.

Primary Power Equipment.

Summary of Power Equipment.—Table 11 presents a comparison for the Dominion and for each of the provinces between a number of units and the total capacity of the different types of prime movers installed in main plants. The table is also extended to show a similar comparison between the mechanical equipment of commercial and municipal stations. The total number of dynamos and boilers in each province is also given.

The total primary power installation of 1,907,135 horse-power is made up of 610 water-wheels and turbines of a total capacity of 1,736,981 horse-power, 198 steam reciprocating engines of 53,068 horse-power, 38 steam-turbines of 102,865 horse-power, and 136 gas and oil-engines of 14,221 horse-power. Of the total primary power Ontario has 822,301 horse-power installed, or 43.12 per cent of the whole; Quebec has a total installation of 619,438 horse-power, or 32.48 per cent of the whole; i.e., over 75 per cent of the total primary power installation of the Dominion is installed in these two provinces.

It is notable that for the Dominion 91.1 per cent of the total primary power installation derives its motive force from the utilization of water-power, the remaining 8.9 per cent depending on fuel (coal, wood, gas, natural or artificial and the combustible oils).

In each of five of the provinces more than 95 per cent of the total primary power installation is in hydro stations. On the other hand the province of Saskatchewan develops 100 per cent of her central station power from fuel, 87.5 per cent from steam and 12.5 per cent from gas and oil, but as the province contains within its borders, more especially in the central and northern sections, water-powers estimated as capable of developing over half a million horse-power at ordinary minimum flow, it is probable that the spread of population will lead to the development of at least a part of them for central electric station purposes.

The low percentage of hydro-power reported from New Brunswick, 36.7 per cent, and from Nova Scotia 14.6 per cent of the total should not be taken as indication of the water-power resources of these provinces but rather as showing that the ready availability of coal for power-producing purposes had retarded the development of interest in these resources. Each of these provinces has appointed a power commission to investigate and develop or control the development of its water-powers and an aggressive policy in that direction is now being pursued.

In considering the ownership of the different types of prime movers it may be mentioned that of the total of 982 units 636, or 64.8 per cent, are installed in commercial and 346, or 35.2 per cent, in municipal stations. The generally restricted distribution of power by municipal stations naturally leads to a smaller average installation so that the percentage of installed horse-power in municipal stations, twenty-five and one-tenth, is less than the percentage of the number of units so installed, the percentage of installed horse-power in commercial stations being correspondingly greater.

The 236 steam units reported are divided almost evenly between the two types of ownership, 119 being installed in commercial and 117 in municipal stations, 43.4 per cent of the total horse-power capacity (steam) being installed in the former and 56.6 per cent in the latter type of station.

Of the internal combustion engines, 44.1 per cent of the number of units with aggregate capacities amounting to 33.6 per cent of the installed horse-power, are in commercial stations, the corresponding percentages for municipal stations being 55.9 per cent and 66.4 per cent.

The number of water-wheels and turbines installed in commercial stations is almost exactly three times the number installed in municipal stations, the proportions of installed horse-power also corresponding very closely to this figure.

Equipment Classified as to Capacity.

Table 12 presents an analysis of the various types of primary and secondary power units according to certain specified capacity ranges.

Of the total of 610 water-wheels and turbines, 74 have a combined capacity of 1,009,900 horse-power, or more than 57 per cent of the total, 47 of these being rated at 10,000 horse-power and under 15,000 horse-power and 27 at 15,000 horse-power or over. Thirty-eight of these large turbines are installed in Ontario stations, 26 in Quebec and the remaining 10 in British Columbia stations. Fifty-eight of the 74 are in commercial and 16 in municipal stations.

The limited field of the steam reciprocating engine and the adaptability of the steam-turbine to the central electric station industry is indicated by this table. The largest reciprocating steam-engine in use in the industry has a capacity of only 2,250 horse-power, and over 86 per cent of the total number are under 500 horse-power capacity, while five steam-turbines of over 5,000 horse-power each are in constant use and five of similar capacity are installed in auxiliary plants. Of the total of 38 steam-turbines 25, or 56.8 per cent, are of 2,000 horse-power capacity or over.

It will be noted from this table that while the use of internal combustion engines is not confined to any particular locality, the province of Saskatchewan has 62, or 45.6 per cent of the 136 gas and oil-engines installed in main plants.

The outstanding feature of the analysis of secondary power equipment given in the table is the limited use of direct-current dynamos. Of the total of 964 dynamos with an aggregate capacity of 1,487,790 kilovolt-amperes, 836, or 86.7 per cent, having a capacity of 1,474,969 kilovolt-amperes, or 99.1 per cent of the total capacity, are alternating current machines. Of these alternating current dynamos, 20.6 per cent have capacities of 1,000 kilovolt-amperes or over while 82 per cent of the direct-current dynamos are rated at less than 200 kilowatt capacity.

Electric Energy Generated.

As explained previously, a small proportion of the stations were unable, on account of lack of suitable meters, to furnish definite figures of the output of their generators.

Table 13 shows the total electrical output of each class of generating station for Canada and for each of the provinces. In order to make the data perfectly clear the dynamo capacity of the stations reporting in each class has been added, together with the percentage that such dynamo capacity forms of the whole dynamo capacity of the class. Assuming power and load factors of 100 per cent, the annual output per kilovolt-ampere would be 8,760 kilowatt hours.

On this basis the fullest utilization of equipment is found in the municipally-owned hydraulic stations in the province of Ontario, which show 4,783 kilowatt hours, or about 55 per cent of maximum generator capacity utilized. The hydraulic stations in general showed a higher per cent utilization of equipment than the fuel stations. It will be noted that in any of the provinces the groups of stations showing less than 90 per cent of the total dynamo capacity reporting output have such small aggregate capacities as not to materially affect the totals.

The total output reported by the fuel stations was 144,125,100 kilowatt hours. This output was reported by stations having 74 per cent of the total installed kilovolt-amperes capacity and should probably be increased by one-third to indicate the total output. The total output reported by hydraulic stations was 5,353,079,000 kilowatt hours. This output was reported by stations having 94 per cent of the total installed kilovolt-amperes capacity. The total output of all hydraulic stations would be approximately 5,500 million kilowatt hours.

The extent and value of Canada's water-powers may be realized when it is stated that according to very conservative estimates the cost of fuel to produce the 5,500 million kilowatt hours of electrical energy generated in hydro-electric central stations would be ninety-five millions of dollars. Over 80 per cent of this power was developed in Ontario and Quebec and since these provinces are dependent almost entirely on the United States for their coal the greater part of this would have had to be imported.

Fuel Used in Power Development.

Table 14 contains a complete summary of the fuel used in the generation of electrical energy in main and auxiliary plants. Fuel used for heating purposes is not included. Fuel to the value of \$466,241 was consumed by fuel plants auxiliary to hydraulic stations, \$431,840 being the value of that consumed in commercial stations and \$34,401 of that in municipal stations.

The figures in this table should not be considered by themselves but rather in connection with the figures of table 10. Excluding the auxiliary plants which operate only part time, Alberta has the greatest horse-power capacity in steam, gas and oil-engines, but due to the cheap gas, oil, lignite and bituminous coal in that province the cost of fuel is only \$397,464 for 45,198 installed horse-power. Saskatchewan, which generates all its power by fuel, has a bill of \$616,242 for 37,474 horse-power, over 90 per cent of which is expended for Canadian fuel. Ontario and Quebec, with no native coal, possess extensive resources of water-power and although Manitoba has little fuel she has four large hydro-electric stations which develop 224 million out of the total of 226 million kilowatt hours reported by all the stations of that province.

Table 1—Summary of Principal Data 1919-1918.

	Total		Commercial — Commerciales		Municipal — Municipales	
	1919	1918	1919	1918	1919	1918
	1	2	3	4	5	6
Total Number of Stations	805	795	358	377	447	418
No. of Hydraulic Stations.....	272	280	199	205	73	75
No. of Fuel Stations.....	221	235	107	127	114	108
No. of Non Generating Stations.....	312	280	52	45	260	235
Total Capital Invested	\$416,512,010	\$401,942,402	\$287,558,443	\$288,151,605	\$128,953,567	\$113,790,797
Lands, Buildings and Fixtures.....	157,375,358	—	136,789,680	—	20,585,678	—
Equipment.....	123,762,689	—	78,260,451	—	45,502,238	—
Distribution and Transmission Systems.....	90,478,009	—	40,322,873	—	50,155,186	—
Materials on Hands & Miscellaneous Supplies.....	6,702,219	—	3,863,015	—	2,839,204	—
Cash, Trading & Operating Accounts, etc.	38,193,735	—	28,322,424	—	9,871,311	—
Total Revenue from sale of Power	\$57,853,392	\$53,549,133	\$35,552,867	\$33,190,882	\$22,300,525	\$20,358,251
For Lighting Purposes.....	20,210,091	16,952,512	10,363,214	8,638,648	9,846,877	8,313,864
For All other purposes.....	37,643,301	36,596,621	25,189,653	24,552,234	12,453,648	12,044,387
Free Service (Value at Commercial Rates)	\$ 267,441	\$ —	\$ 37,514	—	\$ 229,927	—
Total Operating Expenses	\$ 34,341,923	\$ 30,265,864	\$ 19,201,892	\$ 16,851,623	\$ 15,140,031	\$ 13,414,241
Salaries and Wages.....	11,487,132	10,354,242	5,989,049	6,137,525	5,498,083	4,216,717
Fuel.....	2,627,439	2,626,132	1,463,270	1,505,732	1,164,169	1,120,400
Miscellaneous.....	20,227,352	17,285,490	11,749,573	9,208,366	8,477,779	8,077,124
Total Number of Employees	9,656	9,696	5,168	5,690	4,488	4,006
Total Mileage of Pole Lines	18,911	—	11,229	—	7,682	—
For Transmission.....	7,419	—	4,038	—	3,381	—
For Distribution.....	11,492	—	7,191	—	4,301	—
Total Kilowatt Hours Generated (thousands)	5,497,204	—	4,191,223	—	1,305,981	—
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1919	1918	1919	1918	1919	1918
	1	2	3	4	5	6
Total Primary Power H.P.	1,907,135	1,841,114	1,428,918	1,434,196	478,217	406,918
Water Wheels and Turbines..... No.	610	620	457	466	153	154
H.P.	1,736,981	1,682,191	1,356,379	1,345,656	380,602	336,533
Steam Reciprocating Engines..... No.	198	218	104	121	94	97
H.P.	53,068	54,784	27,928	32,025	25,140	22,759
Steam Turbines..... No.	38	37	15	20	23	17
H.P.	102,865	90,853	39,830	51,715	63,035	39,138
Gas & Oil Engines..... No.	136	134	60	66	76	68
H.P.	14,221	13,286	4,781	4,800	9,440	8,486
Total Secondary Power K.V.A.	1,487,790	1,433,722	1,112,494	1,118,438	375,296	315,284
Dynamos A. C..... No.	836	849	526	558	310	291
K.V.A.	1,474,969	1,421,223	1,104,462	1,108,589	370,507	312,639
Dynamos, D.C..... No.	128	141	98	101	30	40
K.W.	12,821	12,494	8,032	9,849	4,789	2,645

Table 1—Résumé comparatif des données principales, 1919-1918.

Generating Productrices		Non-Generating Non productrices		Per Cent of Column 1 Pourcent. de la 1ère colonne				
1919	1918	1919	1918	Com- mer- ciales 1919	Mun- ici- pales 1919	Gen- arat. Prod. 1919	Non Gen. non prod. 1919	
7	8	9	10	11	12	13	14	
493	515	312	280	44.5	55.5	61.2	38.8	Nombre total des usines Nombre des usines hydrauliques Nombre des usines à combustible Nombre des usines non productrices
272	280	—	—	73.2	26.8	100.0	—	
221	235	—	—	48.4	51.6	100.0	—	
—	—	—	—	16.7	83.3	—	—	
\$ 365,389,364	\$ 364,653,246	\$ 51,122,646	\$ 37,289,156	69.0	31.0	87.7	12.3	Total des capitaux investis
151,680,302	—	5,695,056	—	86.9	13.1	96.4	3.6	Terrains, bâtiments et installations
119,563,591	—	4,199,098	—	63.2	36.8	96.6	3.4	Machinerie
60,231,076	—	30,246,933	—	44.6	55.4	66.6	33.4	Réseaux de distribution et de transm.
3,875,503	—	2,826,716	—	57.6	42.4	57.8	42.2	Matières premières et approvisionn.
30,038,892	—	8,154,843	—	74.2	25.8	78.7	21.3	Fonds de roulement, caisse, etc.
45,420,556	42,201,435	12,432,826	11,347,698	61.5	38.5	78.5	21.5	Total des rec. prod. par l'élec. vendue
13,057,592	9,906,790	7,152,499	6,045,722	51.3	48.7	65.5	34.5	Pour l'éclairage
32,362,974	31,294,645	5,280,327	5,301,976	66.9	33.1	86.2	13.8	Pour tous autres usages
202,221	—	65,220	—	14.0	86.0	75.4	24.6	Serv. gratuit (val. au prix du commerce)
24,281,570	22,640,656	10,060,353	7,625,148	55.9	44.1	70.7	29.3	Total des dépenses d'exploitation
7,768,464	8,470,483	3,718,668	1,883,694	52.1	47.9	67.6	32.4	Traitements, appoint. et salaires
2,627,439	2,626,132	—	—	55.7	44.3	100.0	—	Combustible
13,885,667	11,565,645	6,341,685	5,719,845	58.1	41.9	68.6	31.4	Dépenses diverses
6,604	7,745	3,052	1,951	53.5	46.5	68.4	31.6	Nombre total du personnel
14,556	—	4,355	—	59.6	40.4	77.0	23.0	Long. en milles des lignes sur poteaux
6,632	—	787	—	54.4	45.6	89.4	10.6	De transmission
7,924	—	3,568	—	62.6	37.4	69.0	31.0	De distribution
5,544,100	—	—	—	76.4	23.6	100.0	—	Total des kilowatt-heures produits (milliers)

Etat de la machinerie (à l'exclusion de celle des usines auxiliaires)										
Per Cent of Columns 1 & 2 Pouce. des col. 1 et 2				Per Cent of Columns 3, 4, 5, & 6 Pouce. des col. 3, 4, 5 et 6.				Total Power Equipment in Auxiliary Plants		
Commercial		Municipal		Commercial		Municipal		Machines des usines auxi- liaires		
1919	1918	1919	1918	1919	1918	1919	1918	1919	1918	
7	8	9	10	11	12	13	14	15	16	
74.9	77.9	25.1	22.1	100.0	100.0	100.0	100.0	117,783	117,198	Total, force motrice primaire, C.-V.
74.9	75.2	25.1	24.8	—	—	—	—	—	—	Turbines et roues hydrauliques nomb. c.-v
78.1	80.0	21.9	20.0	94.9	93.8	79.6	82.7	—	—	
52.5	55.5	47.5	44.5	—	—	—	—	38	50	Machines à vapeur..... nomb. c.-v.
52.6	58.5	47.4	41.5	2.0	2.2	5.3	5.6	15,060	20,595	
39.5	54.1	60.5	45.9	—	—	—	—	23	20	Turbines à vapeur..... nomb. c.-v.
38.7	56.9	61.3	43.1	2.8	3.6	13.2	9.6	102,500	96,000	
44.1	49.3	55.9	50.7	—	—	—	—	3	5	Moteurs à gaz et à pétrole.... nomb. c.-v.
33.6	36.1	66.4	63.9	0.3	0.3	2.0	2.1	223	605	
				Per cent of secondary Power Col. 3, 4, 5 & 6						
74.8	78.0	25.2	22.0	100.0	100.0	100.0	100.0	88,395	91,811	Total, force motrice secondaire. k.v.a.
62.9	65.7	37.1	34.3	—	—	—	—	42	—	Dynamos, C.A..... nomb. k.v.a.
74.9	78.0	25.1	22.0	99.1	99.1	98.7	99.2	88,370	—	
76.6	71.6	23.4	28.4	—	—	—	—	1	—	Dynamos, C.D..... nomb. k.v.a.
62.6	78.8	37.4	21.2	0.9	0.9	1.3	0.8	25	—	

CENSUS OF INDUSTRY

Table 2—Stations, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
	1	2	3	4	5	6
Total Number of Stations.....	805	52	59	29	25	40
Per Cent of Total for Canada.....	100	6.5	7.3	3.6	3.1	5.0
Commercial Stations.....	358	26	37	10	16	24
Non Generating.....	52	2	5	1	2	4
Generating.....	306	24	32	9	14	20
Hydraulic.....	199	3	22	3	6	6
Fuel.....	107	21	10	6	8	14
Municipal Stations.....	447	26	22	19	9	16
Non Generating.....	260	3	4	4	2	3
Generating.....	187	23	18	15	7	13
Hydraulic.....	73	—	8	1	2	6
Fuel.....	114	23	10	14	5	7
Total Number of Non Generating Stations	312	5	9	5	4	7
Total Number of Generating Stations....	493	47	50	24	21	33
Hydraulic Stations.....	272	3	30	4	8	12
Fuel Stations.....	221	44	20	20	13	21
With Water Wheels and Turbines only....	233	2	24	2	7	11
With Water Wheels & Turbines and Fuel						
Auxiliary Equipment.....	39	1	6	2	1	1
With Steam Engines only.....	109	31	13	10	8	14
With Steam Turbines only.....	5	—	—	—	—	—
With Gas or Oil Engines only.....	87	7	7	10	3	2
With both Steam Engines and Turbines	13	3	—	—	2	4
With both Steam and Gas or oil Engines.	6	2	—	—	—	1
With both Steam Turbines and Gas or						
oil Engines.....	1	1	—	—	—	—
With Alternating Current Dynamos only	405	38	45	15	16	30
With Direct current Dynamos only.....	73	7	5	9	3	2
With Both Alternating and Direct						
Current Dynamos.....	15	2	—	—	2	1

Table 3—Capital, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Capital Invested.....	416,512,010	13,276,950	43,920,125	16,914,922	3,979,956	4,934,369
Per cent of Total for Canada.....	100	3.19	10.55	4.06	.96	1.18
In Lands, Buildings and Fixtures....	157,375,358	4,300,377	20,723,602	5,278,544	1,738,560	1,346,858
Equipment.....	123,762,689	5,548,440	9,369,137	3,800,939	981,178	1,732,306
Distribution and Transmission Lines	90,478,009	2,983,443	10,877,160	6,639,603	786,137	1,634,079
Materials and Supplies.....	6,702,219	131,889	1,069,895	148,918	147,899	39,332
Cash, Trading Accounts, etc.....	38,193,735	312,831	1,880,331	1,046,918	326,182	181,794
Total Capital Invested in Commercial						
Stations.....	287,558,443	5,967,105	41,448,710	6,689,760	3,444,873	4,069,993
Non Generating.....	11,977,071	20,500	6,560,809	195,289	9,585	187,506
Generating.....	275,581,372	5,946,605	34,887,901	6,494,471	3,435,288	3,882,487
Hydraulic.....	253,833,741	5,335,651	34,666,005	6,440,933	1,162,831	441,174
Fuel.....	21,747,631	610,954	221,896	53,538	2,272,457	3,468,313
Total Capital Invested in Municipal Sta-						
tions.....	128,953,567	7,309,875	2,471,415	10,225,162	535,083	864,375
Non Generating.....	39,145,575	14,413	262,108	102,239	34,200	50,255
Generating.....	89,807,992	7,295,462	2,209,307	10,122,923	500,883	814,121
Hydraulic.....	72,439,634	—	1,437,880	9,497,496	158,540	325,826
Fuel.....	17,368,358	7,295,462	771,427	625,427	342,343	488,295
Total Capital Invested in Non Generating						
Stations.....	51,122,646	34,913	6,822,917	297,528	43,785	237,761
Total Capital Invested in Generating						
Stations.....	365,389,364	13,242,067	37,097,208	16,617,394	3,936,171	4,696,608
Hydraulic.....	326,273,375	5,335,651	36,103,885	15,938,429	1,321,371	740,000
Fuel.....	39,115,989	7,906,416	993,323	678,965	2,614,800	3,956,608
Average per H.P. of Primary Power.....	218	169	205	223	225	203
Average per H.P. including Auxiliary						
Equipment.....	206	165	183	180	222	202
Average per K.V.A. of Dynamo Capacity.	280	215	314	333	307	275
Average per K.V.A. including Auxiliary						
Equipment.....	264	209	277	273	307	275

Tableau 2—Usines, 1919.

Ontario	Prince Ed. Island — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	
7	8	9	10	11	
380	9	146	61	4	Nombre total des usines
47.2	1.1	18.1	7.6	0.5	Pourcentage dans chaque province
100	9	110	22	4	Usines commerciales
12	1	23	1	1	Non productrices
88	8	87	21	3	Productrices
73	6	79	—	1	Hydrauliques
15	2	8	21	2	A combustible
280	—	36	39	—	Usines municipales
227	—	16	1	—	Non productrices
53	—	20	38	—	Productrices
41	—	15	—	—	Hydrauliques
12	—	5	38	—	A combustible
239	1	39	2	1	Nombre total des usines non productrices
141	8	107	59	3	Nombre total des usines productrices
114	6	94	—	1	Hydrauliques
27	2	13	59	2	A combustible
98	6	82	—	1	avec roues et turbines hydrauliques seulement
16	—	12	—	—	avec roues et turbines hydrauliques, plus usines auxiliaires
17	—	5	10	1	avec machines à vapeur seulement
8	—	1	2	1	avec turbines à vapeur seulement
8	—	6	44	—	avec moteurs à gaz ou à pétrole seulement
1	—	1	3	—	avec machines et turbines à vapeur à la fois
1	2	—	—	—	avec machines à vapeur, à gaz et à pétrole
—	—	—	—	—	avec turbines à vapeur et moteurs à gaz et à pétrole
119	7	92	41	2	avec dynamos à courant alternatif seulement
17	1	11	17	1	avec dynamos à courant direct seulement
5	—	4	1	—	avec dynamos à courant alternatif et direct

Tableau 3—Capitaux, 1919.

Ontario	Pr. Edward Island — Ile du Prince- Edouard	Quebec	Saskatche- wan	Yukon	
192,898,095	354,725	130,000,412	6,758,769	3,473,657	Total des capitaux investis—
46.31	0.09	31.21	1.62	0.83	Pourcentage dans chaque province
51,135,077	46,831	70,215,027	881,504	1,708,978	Terrains, bâtiments et installations.
59,839,179	183,676	37,699,965	3,282,235	1,325,634	Machinerie
51,559,938	88,999	13,411,342	2,280,386	216,922	Réseaux de transmission et de distribution
3,167,268	15,532	1,779,046	151,609	50,831	Matières premières et approvisionnements
27,196,633	19,687	6,895,032	163,035	171,292	Fonds de roulement, caisse, etc.
96,988,347	354,725	124,852,418	268,855	3,473,657	Total des capitaux absorbés par les usines commerciales
360,082	5,000	4,415,102	15,000	208,198	Non productrices
96,628,265	349,725	120,437,316	253,855	3,265,459	Productrices
84,366,709	69,801	118,149,145	—	3,228,492	Hydrauliques
12,261,556	279,924	2,288,171	253,855	36,967	A combustible
25,909,748	—	5,147,994	6,489,914	—	Total des capitaux absorbés par les usines municipales
38,020,069	—	625,591	36,700	—	Non productrices
57,889,679	—	4,522,403	6,453,214	—	Productrices
57,629,310	—	3,390,582	—	—	Hydrauliques
260,369	—	1,131,821	6,453,214	—	A combustible
38,380,151	5,000	5,040,693	5,700	208,198	Total des capitaux dans les usines non productrices
154,517,944	349,725	124,959,719	6,707,069	3,265,459	Total des capitaux dans les usines productrices
141,996,019	69,801	121,539,727	—	3,228,492	Hydrauliques
12,521,925	279,924	3,419,992	6,707,069	36,967	A combustible
235	266	210	158	340	Moyenne par c.v. de la machinerie d'énergie primaire
224	206	200	158	336	Moyenne par c.v. y compris machinerie auxiliaire
292	244	261	179	556	Moyenne par k.v.a. de la capacité des dynamos
278	244	249	179	562	Moyenne par k.v.a., y compris machinerie auxiliaire

CENSUS OF INDUSTRY

Table 4—Revenue, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Revenue from Sale of Power.....	57,853,392	2,659,346	5,755,836	2,367,394	1,025,694	1,639,130
Per Cent of Total for Canada.....	100	4.60	9.95	4.09	1.77	2.83
For Lighting Purposes.....	20,210,091	1,512,439	2,488,031	1,480,997	701,835	1,114,575
For All Other Purposes.....	37,643,301	1,146,907	3,267,805	886,397	323,859	524,555
Revenue of Commercial Stations.....	35,552,867	734,498	5,188,141	893,276	893,510	1,439,682
Non Generating.....	3,263,896	771	1,836,375	29,013	2,788	72,970
Generating.....	32,283,971	733,727	3,351,766	864,263	890,722	1,366,712
Hydraulic.....	27,226,567	388,237	3,269,095	852,172	158,832	69,713
Fuel.....	5,057,404	345,490	82,671	12,091	731,890	1,296,999
Revenue of Municipal Stations.....	22,300,525	1,924,848	567,695	1,474,118	132,184	199,448
Non Generating.....	9,163,930	16,838	103,118	35,950	9,286	6,715
Generating.....	13,136,595	1,908,010	464,577	1,438,168	122,898	192,733
Hydraulic.....	8,682,729	—	290,016	1,168,111	20,228	49,974
Fuel.....	4,453,866	1,908,010	174,561	270,057	102,670	142,759
Revenue of Non Generating Stations.....	12,432,826	17,609	1,939,493	64,963	12,074	79,685
Revenue of Generating Stations.....	45,420,566	2,641,737	3,816,343	2,302,431	1,013,620	1,559,445
Hydraulic.....	35,909,296	388,237	3,559,111	2,020,283	179,060	119,687
Fuel.....	9,511,270	2,253,500	257,232	282,148	834,560	1,439,758
Average Revenue of Generating Stations per H.P. of Primary Power.....	23.82	33.48	17.84	30.34	57.39	64.22
Average Revenue of Generating Stations per H.P. in Main and Aux. Plants.....	22.42	32.58	15.86	24.46	55.97	63.81
Average Revenue of Generating Stations per K.V.A. of Dynamo Capacity.....	30.53	42.72	27.31	45.31	78.17	87.02
Average Revenue of Generating Stations per K.V.A. in Main and Aux. Plants.....	28.82	41.50	24.07	37.10	78.16	87.02

Table 5—Free Service, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Estimated Value.....	267,441	9,389	57,426	5,084	12,183	12,215
Per cent of Total for Canada.....	100	3.54	21.66	1.92	4.59	4.61
Commercial Stations.....	37,514	2,021	9,449	—	2,933	120
Non Generating.....	359	—	147	—	—	—
Generating.....	37,155	2,021	9,302	—	2,933	120
Hydraulic.....	30,813	—	7,958	—	521	—
Fuel.....	6,342	2,021	1,344	—	2,412	120
Municipal Stations.....	229,927	7,368	47,977	5,084	9,250	12,095
Non Generating.....	64,861	288	1,144	—	400	2,100
Generating.....	165,041	7,080	46,833	5,084	8,850	9,995
Hydraulic.....	65,010	—	23,602	—	8,650	60
Fuel.....	100,056	7,080	23,231	5,084	200	9,935

Tableau 4—Recettes, 1919.

Ontario	Pr. Edward Island Ile du Prince- Edouard	Quebec	Saskatche- wan	Yukon	
26,006,573	80,058	16,553,543	1,662,515	103,303	Total des recettes produites par l'électricité vendue
44.95	14	28.62	2.87	18	Pourcentage dans chaque province.
7,170,800	72,229	4,413,063	1,197,448	53,674	Pour l'éclairage
18,835,773	7,829	12,139,480	465,067	49,629	Pour tous autres usages
10,393,740	80,058	15,739,928	86,731	103,303	Recettes des usines commerciales
123,246	232	1,164,212	2,230	37,059	Non productrices
10,270,494	79,826	14,575,716	84,501	66,244	Productrices
8,828,904	6,809	13,600,105	-	52,700	Hydrauliques
1,441,590	73,017	975,611	84,501	13,544	A combustible
15,612,833	-	813,615	1,575,784	-	Recettes des usines municipales
8,839,506	-	142,751	9,766	-	Non productrices
6,773,327	-	670,864	1,566,018	-	Productrices
6,716,322	-	438,078	-	-	Hydrauliques
57,005	-	232,786	1,566,018	-	A combustible
8,962,752	232	1,306,963	11,996	37,059	Recettes des usines non productrices
17,043,821	79,826	15,246,580	1,650,519	66,244	Recettes des usines productrices
15,545,226	6,809	14,038,183	-	52,700	Hydrauliques
1,498,595	73,017	1,208,397	1,650,519	13,544	A combustible
20.73	46.38	24.61	38.55	6.48	Moy. des recettes des usines prod. par c.v. de machinerie primaire
19.80	46.38	23.42	38.55	6.48	Moy. des recettes des usines prod. par c.v. des usines principales et auxiliaires
25.76	54.98	30.64	43.73	10.72	Moy. des recettes des usines prod. par k.v.a. de la capac. des dynamos
24.56	54.98	29.23	43.73	10.72	Moy. des recettes des usines prod. k.v.a. des usines princp. et auxiliaires

Tableau 5—Service gratuit, 1919.

Ontario	Pr. Edward Island Ile du Prince- Edouard	Quebec	Saskatche- wan	Yukon	
73-113	60	48-926	49,045	-	Valeur estimative totale
26.71	02	18.45	18.50	-	Pourcentage dans chaque province
18,158	60	4,678	95	-	Usines commerciales
12	-	200	-	-	Non productrices
18,146	60	4,478	95	-	Productrices
17,896	60	4,378	-	-	Hydrauliques
250	-	100	95	-	A combustible
54-955	-	44,248	48,950	-	Usines municipales
32,713	-	26,480	1,736	-	Non productrices
22,242	-	17,768	47,214	-	Productrices
16,181	-	16,517	-	-	Hydrauliques
6,061	-	1,251	47,214	-	A combustible

CENSUS OF INDUSTRY

Table 6—Expenses, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Expenses.....	34,341,923	1,593,072	2,990,483	1,136,360	618,246	1,139,606
Per cent of Total for Canada.....	1 00	4.64	8.71	3.31	1.80	3.32
Salaries and Wages.....	11,487,132	496,369	1,072,836	594,363	192,924	292,858
Fuel.....	2,627,439	397,464	119,522	297,679	277,524	409,700
Miscellaneous.....	20,227,352	699,239	1,798,125	244,318	147,798	437,048
Total For Commercial Stations.....	19,201,892	473,390	2,618,734	397,170	532,367	971,014
Salaries and Wages.....	5,989,049	216,503	899,629	106,417	167,843	233,211
Fuel.....	1,463,270	181,396	41,679	211,720	235,552	344,078
Miscellaneous.....	11,749,573	75,491	1,680,426	79,033	128,972	393,725
Non Generating.....	2,426,306	651	1,243,574	23,027	2,378	82,150
Generating.....	16,775,586	472,739	1,375,160	374,143	529,989	888,864
Hydraulic.....	12,957,514	130,593	1,300,742	367,348	75,011	46,239
Fuel.....	3,818,072	342,146	74,418	6,795	454,978	842,575
Total For Municipal Stations.....	15,140,031	1,119,682	371,749	739,190	85,879	168,592
Salaries and Wages.....	5,498,083	279,866	176,207	487,946	25,081	59,647
Fuel.....	1,164,169	216,068	77,843	85,959	41,972	65,622
Miscellaneous.....	8,477,779	623,748	117,699	165,285	18,826	43,323
Non Generating.....	7,634,047	17,160	57,177	21,936	9,660	10,029
Generating.....	7,505,984	1,102,522	314,572	717,254	76,219	158,563
Hydraulic.....	4,324,993	—	183,524	521,685	8,580	27,015
Fuel.....	3,180,991	1,102,522	131,048	195,569	67,639	131,548

Table 7—Employees, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Number of Persons Employed.....	9,656	399	753	464	186	310
Officers, Superintendents, etc.....	1,479	59	80	34	41	54
Clerks, other Salaried Employees.....	3,077	62	267	219	38	44
Employees on Wages.....	5,110	278	406	211	107	212
Total Employees in Commercial Stations..	5,168	189	614	89	157	235
Non Generating.....	528	—	296	6	5	16
Generating.....	4,640	189	318	83	152	219
Hydraulic.....	3,547	52	292	76	30	48
Fuel.....	1,093	137	26	7	122	171
Total Employees in Municipal Stations...	4,488	210	139	375	29	75
Non Generating.....	2,524	7	12	10	2	3
Generating.....	1,964	203	127	365	27	72
Hydraulic.....	1,157	—	77	315	7	20
Fuel.....	807	203	50	50	20	52

Tableau 6—Dépenses 1919.

Ontario	Pr. Edward Island Ile du Prince- Edouard	Quebec	Saskatche- wan	Yukon	
16,020,820 46.65	64,293 ·19	9,326,126 27.15	1,350,366 4.02	72,551 ·21	Total des dépenses
5,784,339	26,284	2,523,564	468,718	34,877	Pourcentage dans chaque province
360,125	26,310	118,902	616,242	5,971	Traitement, appointements et salaires
9,876,356	11,699	6,685,660	295,406	31,703	Combustible
5,151,930	64,293	8,854,322	66,121	72,551	Dépenses diverses
1,947,334	26,284	2,337,901	22,050	34,877	Total pour les usines commerciales
310,393	26,310	73,791	32,380	5,971	Traitement, appointements et salaires
2,894,203	11,699	6,442,630	11,691	31,703	Combustible
70,212	116	977,348	23	26,827	Dépenses diverses
5,081,718	64,177	7,876,974	66,098	45,724	Non productrices
3,867,044	3,131	7,134,668	-	32,688	Productrices
1,214,674	61,046	742,306	66,098	13,036	Hydrauliques
10,868,890	-	471,804	1,314,245	-	A combustible
3,837,005	-	185,663	446,668	-	Total pour les usines municipales
49,732	-	43,111	583,862	-	Traitements, appointements et salaires
6,982,153	-	243,030	283,715	-	Combustible
7,372,370	-	137,310	8,405	-	Dépenses diverses
3,496,520	-	334,494	1,305,840	-	Non productrices
3,428,554	-	155,635	-	-	Productrices
67,966	-	178,859	1,305,840	-	Hydrauliques
					A combustible

Tableau 7—Personnel, 1919.

Ontario	Pr. Edward Island Ile du Prince- Edouard	Quebec	Saskatche- wan	Yukon	
4,724 918 1,312 2,494	35 5 6 24	2,393 235 1,001 1,157	370 49 123 198	22 4 5 13	Total du personnel occupé
1,584	35	2,218	25	22	Administrateurs, directeurs, etc
30	-	167	-	8	Commis et tous employés des bureaux
1,554	35	2,051	25	14	Ouvriers et journaliers
1,139	4	1,896	-	10	Personnel des usines commerciales
415	31	155	25	4	Non productrices
3,140	-	175	345	-	Productrices
2,449	-	39	2	-	Hydrauliques
691	-	136	343	-	A combustible
658	-	80	-	-	Personnel des usines municipales
33	-	56	343	-	Non productrices
					Productrices
					Hydrauliques
					A combustible

CENSUS OF INDUSTRY

Table 8—Classified Weekly Wages 1919.

Wage Classes — Classes de salaires	Canada				Alberta			
	16 years of age and over — 16 ans et plus		Under 16 years — Au- dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au- dessous de 16 ans	Total
	Male — Hom- mes	Female — Fem- mes	Male and Female — Garçons et filles		Male — Hom- mes	Female — Fem- mes	Male and Female — Garçons et filles	
Under \$5—Au-dessous de \$5.....	23	6	—	29	—	—	—	—
\$5 but under \$6—\$5 mais moins de \$6.....	8	4	—	12	1	—	—	1
\$6 but under \$7—\$6 mais moins de \$7.....	28	1	—	29	1	—	—	1
\$7 but under \$8—\$7 mais moins de \$8.....	13	—	4	17	2	—	—	2
\$8 but under \$9—\$8 mais moins de \$9.....	9	1	—	10	3	—	—	3
\$9 but under \$10—\$9 mais moins de \$10.....	219	—	—	219	—	—	—	—
\$10 but under \$11—\$10 mais moins de \$11.....	228	—	4	232	—	—	—	—
\$11 but under \$12—\$11 mais moins de \$12.....	8	—	1	9	2	—	—	2
\$12 but under \$13—\$12 mais moins de \$13.....	40	2	—	42	—	—	—	—
\$13 but under \$14—\$13 mais moins de \$14.....	31	3	—	34	2	—	—	2
\$14 but under \$15—\$14 mais moins de \$15.....	50	2	4	56	1	1	—	2
\$15 but under \$16—\$15 mais moins de \$16.....	115	7	—	122	9	—	—	9
\$16 but under \$18—\$16 mais moins de \$18.....	256	7	1	264	6	—	1	7
\$18 but under \$20—\$18 mais moins de \$20.....	317	12	13	342	15	—	—	15
\$20 but under \$22—\$20 mais moins de \$22.....	541	1	2	544	8	—	—	8
\$22 but under \$24—\$22 mais moins de \$24.....	446	1	—	447	24	—	—	24
\$24 but under \$26—\$24 mais moins de \$26.....	568	—	—	568	32	—	—	32
\$26 but under \$28—\$26 mais moins de \$28.....	293	—	1	294	29	—	—	29
\$28 but under \$30—\$28 mais moins de \$30.....	290	—	—	290	24	—	—	24
\$30 and over—\$30 et plus.....	971	—	—	971	107	—	—	107
Totals—Totaux.....	4,454	47	30	4,531	266	1	1	268
Wage Classes — Classes de salaires	Ontario				P. E. Island — Ile du Prince-Edouard			
	16 years of age and over — 16 ans et plus		Under 16 years — Au- dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au- dessous de 16 ans	Total
	Male — Hom- mes	Female — Fem- mes	Male and Female — Garçons et filles		Male — Hom- mes	Female — Fem- mes	Male and Female — Garçons et filles	
Under \$5—Au-dessous de \$5.....	17	6	—	23	1	—	—	1
\$5 but under \$6—\$5 mais moins de \$6.....	3	4	—	7	—	—	—	—
\$6 but under \$7—\$6 mais moins de \$7.....	2	1	—	3	—	—	—	—
\$7 but under \$8—\$7 mais moins de \$8.....	6	—	4	10	—	—	—	—
\$8 but under \$9—\$8 mais moins de \$9.....	4	1	—	5	—	—	—	—
\$9 but under \$10—\$9 mais moins de \$10.....	207	—	—	207	—	—	—	—
\$10 but under \$11—\$10 mais moins de \$11.....	215	—	4	219	5	—	—	5
\$11 but under \$12—\$11 mais moins de \$12.....	—	—	1	1	—	—	—	—
\$12 but under \$13—\$12 mais moins de \$13.....	25	—	—	25	2	—	—	2
\$13 but under \$14—\$13 mais moins de \$14.....	13	2	—	15	1	—	—	1
\$14 but under \$15—\$14 mais moins de \$15.....	25	1	2	28	—	—	—	—
\$15 but under \$16—\$15 mais moins de \$16.....	27	1	—	28	3	—	—	3
\$16 but under \$18—\$16 mais moins de \$18.....	48	7	—	55	3	—	—	3
\$18 but under \$20—\$18 mais moins de \$20.....	75	11	—	86	3	—	—	3
\$20 but under \$22—\$20 mais moins de \$22.....	148	1	—	149	2	—	—	2
\$22 but under \$24—\$22 mais moins de \$24.....	157	—	—	157	4	—	—	4
\$24 but under \$26—\$24 mais moins de \$26.....	186	—	—	186	—	—	—	—
\$26 but under \$28—\$26 mais moins de \$28.....	170	—	—	170	—	—	—	—
\$28 but under \$30—\$28 mais moins de \$30.....	146	—	—	146	—	—	—	—
\$30 and over—\$30 et plus.....	375	—	—	375	—	—	—	—
Totals—Totaux.....	1,849	35	11	1,895	24	—	—	24

Tableau 8—Salaires hebdomadaires classifiés, 1919.

British Columbia Col. Britannique				Manitoba				New Brunswick Nouveau-Brunswick				Nova Scotia Nouvelle-Ecosse			
16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total
Male — Hommes	Female — Femmes	Male and Female — Garçons et filles		Male — Hommes	Female — Femmes	Male and Female — Garçons et filles		Male — Hommes	Female — Femmes	Male and Female — Garçons et filles		Male — Hommes	Female — Femmes	Male and Female — Garçons et filles	
2	—	—	2	1	—	—	1	—	—	—	—	1	—	—	1
1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	1	—	—	1	1	—	—	—	1	—	—	—
—	—	—	—	1	—	—	1	1	—	—	—	1	—	—	—
—	—	—	—	2	—	—	2	2	—	—	—	2	—	—	—
—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	2
—	—	—	—	1	—	—	1	—	1	—	—	1	—	—	3
1	—	—	1	3	—	—	3	1	—	—	—	1	—	—	1
—	—	—	—	1	—	—	1	1	—	—	—	1	—	—	5
—	—	—	—	1	6	—	7	9	—	—	—	9	23	—	28
1	—	—	1	—	—	—	—	1	—	—	—	1	5	—	5
6	—	—	6	1	1	—	2	14	—	—	—	14	19	—	19
10	—	—	10	40	—	—	40	14	—	—	—	14	20	—	20
10	1	—	11	51	—	—	51	10	—	—	—	10	8	—	8
34	—	—	34	81	—	—	81	27	—	—	—	27	24	—	24
15	—	—	15	10	—	—	10	5	—	—	—	5	13	—	13
55	—	—	55	10	—	—	10	10	—	—	—	10	16	—	16
282	—	—	282	15	—	—	15	8	—	—	—	8	39	—	39
418	1	—	419	219	7	—	226	105	1	—	106	185	1	—	186

Quebec				Saskatchewan				Yukon			
16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total	16 years of age and over — 16 ans et plus		Under 16 years — Au-dessous de 16 ans	Total
Male — Hommes	Female — Femmes	Male and female — Garçons et filles		Male — Hommes	Female — Femmes	Male and female — Garçons et filles		Male — Hommes	Female — Femmes	Male and female — Garçons et filles	
1	—	—	1	—	—	—	—	—	—	—	—
2	—	—	2	—	—	—	—	—	—	—	—
7	—	—	7	1	—	—	1	16	—	—	16
1	—	—	1	—	—	—	—	2	—	—	2
—	—	—	—	—	—	—	—	—	—	—	—
9	—	—	9	1	—	—	1	—	—	—	—
3	—	—	3	1	—	—	1	—	—	—	—
3	—	—	3	—	—	—	—	—	—	—	—
10	1	—	11	—	—	—	—	1	—	—	1
9	—	—	9	—	—	—	—	—	—	—	—
14	—	2	16	3	—	—	3	—	—	—	—
32	—	—	32	6	—	—	6	—	—	—	—
188	—	—	188	2	—	—	2	2	—	—	2
180	—	13	193	4	—	—	4	—	—	—	—
277	—	2	279	22	—	—	22	—	—	—	—
165	—	—	165	17	—	—	17	—	—	—	—
145	—	—	145	39	—	—	39	—	—	—	—
27	—	1	28	24	—	—	24	—	—	—	—
11	—	—	11	13	—	—	13	—	—	—	—
56	—	—	56	85	—	—	85	4	—	—	4
1,140	1	18	1,159	223	—	—	223	25	—	—	25

Table 9—Pole Line Mileage 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Pole Line Mileage.....	18,911	857	2,554	1,619	480	758
For Transmission.....	7,419	175	711	172	74	156
For Distribution.....	11,492	682	1,843	1,447	406	602
Total Pole Line Mileage—Commercial Stations.....	11,229	265	2,144	1,155	384	612
Non Generating.....	2,126	1	1,182	34	6	60
Generating.....	9,103	264	962	1,121	378	552
Hydraulic.....	7,374	146	929	1,112	110	112
Fuel.....	1,729	118	33	9	268	440
Total Pole Line Mileage—Municipal Stations.....	7,682	592	410	464	96	146
Non Generating.....	2,229	20	79	33	14	13
Generating.....	5,453	572	331	431	82	133
Hydraulic.....	3,972	—	179	349	33	60
Fuel.....	1,481	572	152	82	49	73

Table 10—Equipment 1919.

TOTAL EQUIPMENT INCLUDING THE AUXILIARY PLANT EQUIPMENT

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Primary Power Equipment—						
Water Wheels and Turbines.....No.	610	13	54	16	15	13
Total Capacity.....H.P.	1,736,981	32,380	207,456	72,655	6,478	3,552
Steam Engines and Turbines.....No.	297	64	33	21	23	42
Total Capacity.....H.P.	273,493	47,448	30,916	20,690	10,385	20,580
Gas and Oil Engines.....No.	139	13	13	13	5	4
Total Capacity.....H.P.	14,444	1,327	2,015	747	1,050	300
Total Primary Power.....H.P....	2,024,918	81,155	240,387	94,092	17,913	24,432
Secondary Power Equipment—						
Dynamos, A.C. and D.C.....No.	1,007	86	104	49	43	60
Total Capacity.....K.V.A.	1,576,185	63,692	158,477	62,067	12,966	17,921

AUXILIARY PLANT EQUIPMENT

Primary Power Equipment—						
Steam Reciprocating Engines.....No.	38	2	3	3	1	1
Total capacity.....H.P.	15,060	1,250	780	3,200	250	150
Steam Turbines.....No.	23	1	9	3	—	—
Total Capacity.....H.P.	102,500	1,000	25,500	15,000	—	—
Gas and Oil Engines.....No.	3	—	1	—	—	—
Total capacity.....H.P.	223	—	200	—	—	—
Total Primary Power.....H.P.	117,783	2,350	26,480	18,200	250	150
Secondary Power Equipment.....						
Dynamos, A.C.....No.	42	3	13	6	—	—
Total Capacity.....K.V.A.	88,370	1,850	18,725	11,250	—	—
Dynamos, D.C.....No.	1	—	—	—	—	—
Total Capacity.....K.V.A.	25	—	—	—	—	—
Total Secondary Power.....K.V.A.	88,395	1,850	18,725	11,250	—	—

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1919.

Ontario	P. Edward Island — Ile du Prince- Edouard	Québec	Saskatchewan	Yukon	
7,908	61	4,094	536	44	Longueur totale, en milles, des lignes sur poteaux
3,901	18	2,151	26	35	Pour la transmission
4,007	43	1,943	510	9	Pour la distribution
2,758	61	3,736	70	44	Pour le service des usines commerciales
80	8	741	8	6	Non productrices
2,678	53	2,995	62	38	Productrices
2,117	32	2,781	—	35	Hydrauliques
561	21	214	62	3	A combustible
5,150	—	358	466	—	Pour le service des usines municipales
1,926	—	137	7	—	Non productrices
3,224	—	221	459	—	Productrices
3,171	—	180	—	—	Hydrauliques
53	—	41	459	—	A combustible

Tableau 10—Machinerie, 1919

TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Ontario	Pr. Edward Island — Ile du Prince- Edouard	Quebec	Saskatchewa	Yukon	
					Machinerie fournissant la force motrice primaire
283	7	207	—	2	Turbines et roues hydrauliques..... nomb.
791,522	245	612,693	—	10,000	Capacité totale..... ch.-v.
46	2	35	29	2	Machines et turbines à vapeur..... nomb.
67,250	500	38,030	37,474	220	Capacité totale..... ch.-v.
15	5	9	62	—	Moteurs à gaz et à pétrole..... nomb.
2,384	976	313	5,332	—	Capacité totale..... ch.-v.
861,156	1,721	651,036	42,806	10,220	Total, force motrice primaire
					Machinerie développant la force motrice secondaire
323	13	231	93	5	Dynamos, C.A. et C.D..... nomb.
694,095	1,452	521,589	37,746	6,180	Capacité totale..... K.V.A.

MACHINES DES USINES AUXILIAIRES

					Machine fournissant la force motrice primaire
16	—	12	—	—	Machines à vapeur..... nomb.
3,340	—	6,090	—	—	Capacité totale..... ch.-v.
4	—	6	—	—	Turbines à vapeur..... nomb.
35,500	—	25,500	—	—	Capacité totale..... ch.-v.
1	—	1	—	—	Moteurs à gaz et à pétrole..... nomb.
15	—	8	—	—	Capacité totale..... ch.-v.
38,855	—	31,598	—	—	Total, force motrice primaire
					Machinerie développant la force motrice secondaire
11	—	9	—	—	Dynamos, C.A..... nomb.
32,515	—	24,030	—	—	Capacité totale..... K.V.A.
1	—	—	—	—	Dynamos, C.D..... nomb.
25	—	—	—	—	Capacité totale..... K.V.A.
32,540	—	24,030	—	—	Total, force motrice secondaire

Table 10—Main Plant Equipment, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Water Wheels and Turbines.....No.....	610	13	54	16	15	13
Total Capacity.....H.P.....	1,736,981	32,380	207,456	72,655	6,478	3,552
Steam Reciprocating Engines.....No.....	198	50	21	15	18	36
Total Capacity.....H.P.....	53,068	13,498	4,636	2,490	5,560	11,442
Steam Turbines.....No.....	38	11	—	—	4	5
Total Capacity.....H.P.....	102,865	31,700	—	—	4,575	8,988
Gas and Oil Engines.....No.....	136	13	12	13	5	4
Total Capacity.....H.P.....	14,221	1,327	1,815	747	1,050	300
Total Primary Power.....H.P.....	1,907,135	78,905	213,907	75,892	17,663	24,282
per cent of total for Canada.....	100-00	4-14	11-21	3-98	0-93	1-27
Boilers.....No.....	352	108	22	25	29	64
Total Capacity.....H.P.....	79,957	25,775	2,233	2,833	5,988	11,841
per cent of total for Canada.....	100-00	32-24	2-79	3-54	7-49	14-81
Dynamos A.C.....No.....	836	69	80	31	36	55
Total Capacity.....K.V.A.....	1,474,969	58,976	138,620	50,499	11,774	17,161
Dynamos D.C.....No.....	128	14	11	12	7	5
Total Capacity.....K.V.A.....	12,821	2,866	1,132	318	1,192	760
Total Dynamo Capacity.....K.V.A.....	1,487,790	61,842	139,752	50,817	12,966	17,921
per Cent of Total for Canada.....	100-00	4-16	9-39	3-42	0-87	1-20
Commercial Stations—						
Water Wheels and Turbines.....No.....	457	13	43	8	12	6
Total Capacity.....H.P.....	1,356,379	32,380	197,581	26,255	5,668	1,538
Steam Reciprocating Engines.....No.....	104	19	15	3	15	27
Total Capacity.....H.P.....	27,928	3,305	3,413	260	5,145	9,930
Steam Turbines.....No.....	15	—	—	—	4	4
Total Capacity.....H.P.....	39,830	—	—	—	4,575	8,720
Gas and Oil Engines.....No.....	60	7	3	4	—	1
Total Capacity.....H.P.....	4,781	402	90	63	—	85
Total Primary Power.....H.P.....	1,428,918	36,087	201,084	26,578	15,388	20,273
per Cent of total for Canada.....	100-00	2-53	14-07	1-86	1-08	1-42
Boilers.....No.....	181	26	13	4	25	53
Total Capacity.....H.P.....	34,352	3,390	1,309	360	5,483	10,381
per Cent of total for Canada.....	100-00	9-87	3-81	1-05	15-96	30-22
Dynamos A.C.....No.....	526	31	53	9	25	34
Total Capacity.....K.V.A.....	1,104,462	25,022	130,014	11,138	10,311	14,250
Dynamos D.C.....No.....	98	5	11	5	7	5
Total Capacity.....K.V.A.....	8,032	81	1,132	96	1,192	760
Total Dynamo Capacity.....K.V.A.....	1,112,494	25,103	131,146	11,234	11,503	15,010
per Cent of total for Canada.....	100-00	2-26	11-79	1-01	1-03	1-35
Municipal Stations—						
Water Wheels and Turbines.....No.....	153	—	11	8	3	7
Total Capacity.....H.P.....	380,602	—	9,875	46,400	810	2,014
Steam Reciprocating Engines.....No.....	94	31	6	12	3	9
Total Capacity.....H.P.....	25,140	10,193	1,223	2,230	415	1,512
Steam Turbines.....No.....	23	11	—	—	—	1
Total Capacity.....H.P.....	63,035	31,700	—	—	—	268
Gas and Oil Engines.....No.....	76	6	9	9	5	3
Total Capacity.....H.P.....	9,440	925	1,725	684	1,050	215
Total Primary Power.....H.P.....	478,217	42,818	12,823	49,314	2,275	4,009
per Cent of total for Canada.....	100-00	8-95	2-68	10-31	0-48	0-84
Boilers.....No.....	201	82	9	21	4	11
Total capacity.....H.P.....	45,605	22,335	924	2,473	505	1,460
per Cent of total for Canada.....	100	49-09	2-02	5-42	1-11	3-20
Dynamos A.C.....No.....	310	38	27	22	11	21
Total Capacity.....K.V.A.....	370,507	33,954	8,606	39,361	1,463	2,911
Dynamos D.C.....No.....	30	9	—	7	—	—
Total Capacity.....K.V.A.....	4,789	2,785	—	222	—	—
Total Dynamo Capacity.....K.V.A.....	375,296	36,739	8,606	39,583	1,463	2,911
per Cent of total for Canada.....	100-00	9-79	2-29	10-55	0-39	0-78

Tableau 11—Machinse des usines principales, 1919.

Ontario	Prince Edward Island Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
283	7	207	-	2	Turbines et roues hydrauliques.....nomb.
791,522	245	612,693	-	10,000	Capacité totale.....c.-v.
22	2	15	18	1	Machines à vapeur.....nomb.
4,310	500	4,165	6,407	60	Capacité totale.....c.-v.
4	-	2	11	1	Turbines à vapeur.....nomb.
24,100	-	2,275	31,067	160	Capacité totale.....c.-v.
14	5	8	62	-	Moteurs à gaz et à pétrole.....nomb.
2,369	976	304	5,333	-	Capacité totale.....c.-v.
522,301	1,721	619,438	42,806	10,220	Machinerie fournissant la force motrice pri-
43-12	0-09	32-48	2-24	0-54	maire.....c.-v.
52	2	24	54	2	Chaudières.....nomb.
10,998	450	4,694	14,855	260	Capacité totale.....c.-v.
13-75	0-56	5-87	18-62	0-33	Pourcentage dans chaque province
280	12	201	69	3	Dynamos, C.A.....nomb.
658,565	1,392	495,331	36,501	6,150	Capacité totale.....K.V.A.
31	1	21	24	2	Dynamos C.D.....nomb.
2,990	60	2,228	1,245	30	Capacité totale.....K.V.A.
661,555	1,452	497,559	37,716	6,180	Capacité totale de l'ensemble des dynamos...K.V.A.
44-45	0-10	33-44	2-54	0-42	Pourcentage dans chaque province
184	7	182	-	2	Usines commerciales—
436,134	245	596,578	-	10,000	Turbines et roues hydrauliques.....nomb.
11	2	8	3	1	Capacité totale.....c.-v.
3,150	500	1,765	400	60	Machines à vapeur.....nomb.
4	-	2	-	1	Capacité totale.....c.-v.
24,100	-	2,275	-	160	Turbines à vapeur.....nomb.
12	5	5	23	-	Capacité totale.....c.-v.
2,213	976	145	807	-	Moteurs à gaz et à pétrole.....nomb.
515,597	1,721	600,763	1,207	10,220	Capacité totale.....c.-v.
36-08	0-12	42-04	0-08	0-72	Machinerie fournissant la force motrice pri-
37	2	15	4	2	maire.....c.-v.
9,470	450	2,724	525	260	Chaudières.....nomb
27-56	1-31	7-93	1-53	0-76	Capacité totale.....c.-v.
182	12	168	9	3	Pourcentage dans chaque province
424,093	1,392	481,605	488	6,150	Dynamos C.A.....nomb.
26	1	17	19	2	Capacité totale.....K.V.A.
2,131	60	2,144	405	30	Dynamos C.D.....nomb.
426,224	1,452	483,749	893	6,180	Capacité totale.....K.V.A.
38-31	0-13	43-48	0-08	0-56	Pourcentage dans chaque province
99	-	25	-	-	Usines municipales—
305,388	-	16,115	-	-	Turbines et roues hydrauliques.....nomb.
11	-	7	15	-	Capacité totale.....c.-v.
1,160	-	2,400	6,007	-	Machines à vapeur.....nomb.
-	-	-	11	-	Capacité totale.....c.-v.
-	-	-	31,067	-	Turbines à vapeur.....nomb.
2	-	8	39	-	Capacité totale.....c.-v.
156	-	160	4,525	-	Moteurs à gaz et à pétrole.....nomb.
306,704	-	18,675	41,599	-	Capacité totale.....c.-v.
64-13	-	3-91	8-70	-	Machinerie fournissant la force motrice pri-
15	-	9	50	-	maire.....c.-v.
1,528	-	1,970	14,360	-	Chaudières.....nomb.
3-35	-	4-32	31-49	-	Capacité totale.....c.-v.
98	-	33	60	-	Pourcentage dans chaque province
234,473	-	13,726	36,013	-	Dynamos C.A.....nomb.
5	-	4	5	-	Capacité totale.....K.V.A.
858	-	84	840	-	Dynamos C.D.....nomb.
235,331	-	13,810	36,853	-	Capacité totale.....K.V.A.
62-70	-	3-68	9-82	-	Pourcentage dans chaque province

Table 12—Main Plant Equipment Classified, 1919.

	L	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba
Primary Power—Force Motrice Primaire					
Water Wheels and Turbines—Roues hydrauliques et turbines—					
Total.....No.	1	610	13	54	16
Total H.P.—ch.-vap.	2	1,736,981	32,380	207,456	72,655
Under—Au-dessous de 500 H.P.....No.	3	243	7	16	1
Total H.P.—ch.-vap.	4	41,070	780	2,490	450
500-2,000 H.P.....No.	5	180	—	17	2
Total H.P.—ch.-vap.	6	189,621	—	19,966	1,000
2,000-5,000 H.P.....No.	7	67	2	5	5
Total H.P.—ch.-vap.	8	198,390	8,000	14,400	24,805
5,000-10,000 H.P.....No.	9	46	4	6	18
Total H.P.—ch.-vap.	10	298,000	23,600	46,000	46,400
10,000-15,000 H.P.....No.	11	47	—	10	—
Total H.P.—ch.-vap.	12	514,400	—	124,600	—
15,000 up.....No.	13	27	—	—	—
Total H.P.—ch.-vap.	14	465,500	—	—	—
Steam Engines and Turbines—Machines et turbines à vapeur—					
Total.....No.	15	236	61	21	15
Total H.P.—ch.-vap.	16	155,933	45,198	4,636	2,490
Steam Reciprocating Engines—Machines à vapeur—					
Total.....No.	17	198	50	21	15
Total H.P.—ch.-vap.	18	53,068	13,498	4,636	2,490
Under—Au-dessous de 500 H.P.....No.	19	171	43	20	15
Total H.P.—ch.-vap.	20	30,858	6,928	3,736	2,490
500 up.....No.	21	27	7	1	—
Total H.P.—ch.-vap.	22	22,210	6,570	900	—
Steam Turbines—Turbines à vapeur—					
Total.....No.	23	38	11	—	—
Total H.P.—ch.-vap.	24	102,865	31,700	—	—
Under—Au-dessous de 500 H.P.....No.	25	4	—	—	—
Total H.P.—ch.-vap.	26	953	—	—	—
500-2,000 H.P.....No.	27	9	2	—	—
Total H.P.—ch.-vap.	28	7,968	2,000	—	—
2,000-5,000 H.P.....No.	29	20	7	—	—
Total H.P.—ch.-vap.	30	56,044	17,200	—	—
5,000-10,000 H.P.....No.	31	4	2	—	—
Total H.P.—ch.-vap.	32	27,900	12,500	—	—
10,000 up.....No.	33	1	—	—	—
Total H.P.—ch.-vap.	34	10,000	—	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole—					
Total.....No.	35	136	13	12	13
Total H.P.—ch.-vap.	36	14,221	1,327	1,815	747
Secondary Power—Force motrice secondaire					
Dynamos, A.C. and D.C.—C.A. et C.D.....Total.....No.	37	964	83	91	43
Total K.V.A.	38	1,487,790	61,842	139,752	50,817
Dynamos, A.C.—C.A.....Total.....No.	39	836	69	80	31
Total K.V.A.	40	1,474,969	58,976	138,620	50,499
Under—Au-dessous de 200 K.V.A.....No.	41	316	42	36	11
Total K.V.A.	42	29,900	3,938	3,504	911
200-500 K.V.A.....No.	43	128	9	9	7
Total K.V.A.	44	38,272	2,773	3,178	2,088
500-1,000 K.V.A.....No.	45	144	1	11	—
Total K.V.A.	46	103,291	580	9,463	—
1,000-5,000 K.V.A.....No.	47	152	15	10	10
Total K.V.A.	48	346,491	39,935	19,525	28,750
5,000-10,000 K.V.A.....No.	49	47	2	14	3
Total K.V.A.	50	344,975	11,750	102,950	18,750
10,000-15,000 K.V.A.....No.	51	42	—	—	—
Total K.V.A.	52	491,340	—	—	—
15,000 up.....No.	53	7	—	—	—
Total K.V.A.	54	120,700	—	—	—
Dynamos, D.C.—C.D.....Total.....No.	55	128	14	11	12
Total K.V.A.	56	12,821	2,866	1,132	318
Under—Au-dessous de 200 K.V.A.....No.	57	105	9	9	12
Total K.V.A.	58	3,963	216	632	318
200-500 K.V.A.....No.	59	17	2	2	—
Total K.V.A.	60	5,008	800	500	—
500-1,000 K.V.A.....No.	61	6	3	—	—
Total K.V.A.	62	3,850	1,850	—	—

Tableau 12—Machines des usines principales classifiées, 1919.

New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse	Ontario	Pr. Ed. Island — Ile du Pr.- Edouard	Quebec	Saskat- chewan	Yukon	Commer- cial Commer- ciales	Municipal Municipales	
15	13	283	7	207	—	2	457	153	1
6,478	3,552	791,522	245	612,693	—	10,000	1,356,379	380,602	2
11	12	99	7	90	—	—	186	57	3
2,078	2,802	16,722	245	15,503	—	—	30,563	10,507	4
3	1	105	—	52	—	—	117	63	5
2,000	750	107,890	—	58,015	—	—	124,386	65,235	6
1	—	29	—	25	—	—	61	6	7
2,400	—	78,160	—	70,625	—	—	184,930	13,460	8
—	—	12	—	14	—	2	35	11	9
—	—	74,550	—	97,450	—	10,000	234,800	63,200	10
—	—	22	—	15	—	—	40	7	11
—	—	258,700	—	161,100	—	—	463,200	81,200	12
—	—	16	—	11	—	—	18	9	13
—	—	255,500	—	210,000	—	—	318,500	147,000	14
22	41	26	2	17	29	2	119	117	15
10,135	20,430	28,410	500	6,440	37,474	220	67,758	88,175	16
18	36	22	2	15	18	1	104	94	17
5,560	11,442	4,310	500	4,165	6,407	60	27,928	25,140	18
15	29	20	2	13	13	1	90	81	19
2,660	6,382	2,810	500	2,895	2,397	60	16,998	13,860	20
3	7	2	—	2	5	—	14	13	21
2,900	5,060	1,500	—	1,270	4,010	—	10,930	11,280	22
4	5	4	—	2	11	1	15	23	23
4,575	8,988	24,100	—	2,275	31,067	160	39,830	63,035	24
1	1	—	—	1	—	1	3	1	25
250	268	—	—	275	—	160	685	268	26
2	2	—	—	—	3	—	4	5	27
1,325	2,020	—	—	—	2,623	—	3,345	4,623	28
1	2	2	—	1	7	—	6	14	29
3,000	6,700	5,400	—	2,000	21,744	—	17,100	38,944	30
—	—	1	—	—	1	—	1	3	31
—	—	8,700	—	—	6,700	—	8,700	19,200	32
—	—	1	—	—	—	—	1	—	33
—	—	10,000	—	—	—	—	10,000	—	—
5	4	14	5	8	62	—	60	76	35
1,050	300	2,369	976	304	5,332	—	4,781	9,440	36
43	60	311	13	222	93	5	624	340	37
12,966	17,921	661,555	1,452	497,559	37,746	6,180	1,112,494	375,296	38
36	55	280	12	201	69	3	526	310	39
11,774	17,161	658,565	1,392	495,331	36,501	6,150	1,104,462	370,507	40
18	31	62	10	56	49	1	164	152	41
1,988	3,174	6,277	892	5,803	3,263	150	15,278	14,622	42
10	15	41	2	30	5	—	78	50	43
2,836	4,074	12,562	500	8,564	1,697	—	22,896	15,376	44
6	6	77	—	37	6	—	97	47	45
3,450	3,663	55,772	—	26,472	3,891	—	69,429	33,862	46
2	3	54	—	48	8	2	113	39	47
3,500	6,250	108,839	—	112,292	21,400	6,000	258,559	87,932	48
—	—	21	—	6	1	—	38	9	49
—	—	168,775	—	36,500	6,250	—	280,100	64,875	50
—	—	23	—	19	—	—	31	11	51
—	—	273,140	—	218,200	—	—	370,700	120,640	52
—	—	2	—	5	—	—	5	2	53
—	—	33,200	—	87,500	—	—	87,500	33,200	54
7	5	31	1	21	24	2	98	30	55
1,192	760	2,990	60	2,228	1,245	30	8,032	4,789	56
5	3	25	1	17	22	2	83	22	57
309	210	1,090	60	653	445	30	3,374	589	58
1	2	5	—	3	2	—	13	4	59
233	550	1,150	—	975	800	—	3,408	1,600	60
1	—	1	—	1	—	—	2	4	61
650	—	750	—	600	—	—	1,250	2,600	62

Table 13—Electric Energy Generated, 1919.

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
ALL STATIONS						
K.W. hours Generated (thousands)	5,497,204	86,381	397,880	179,655	18,341	35,088
K.V.A. Capacity Reporting	1,457,422	56,793	141,713	58,435	9,892	15,028
per cent of Total K.V.A. Capacity	92	89	89	94	76	84
Average K.W. hours per K.V.A.	3,772	1,521	2,808	3,073	1,854	2,335
Commercial Stations						
Hydraulic						
K.W. hours Generated (thousands)	4,131,861	40,784	380,373	83,371	6,212	1,353
K.V.A. Capacity Reporting	1,069,604	24,600	129,338	19,000	2,700	474
per cent of Total K.V.A. Capacity	94	100	89	85	70	41
Average K.W. hours per K.V.A.	3,863	2,024	2,941	4,388	2,301	2,812
Fuel						
K.W. hours Generated (Thousands)	59,362	2,846	4,737	3	11,094	31,005
K.V.A. Capacity Reporting	30,021	970	2,613	30	6,217	12,834
per cent of Total K.V.A. Capacity	51	41	92	18	81	93
Average K.W. hours per K.V.A.	1,977	2,934	1,813	100	1,784	2,416
Total						
K.W. hours Generated (thousands)	4,191,223	52,630	385,110	83,374	17,306	32,338
K.V.A. Capacity Reporting	1,099,625	25,570	131,951	19,030	8,917	13,308
per cent of Total K.V.A. Capacity	92	93	89	85	78	89
Average K.W. hours per K.V.A.	3,812	2,058	2,919	4,381	1,941	2,430
Municipal Stations						
Hydraulic						
K.W. hours Generated (thousands)	1,221,218	—	10,486	93,992	500	950
K.V.A. Capacity Reporting	282,742	—	8,056	37,500	288	344
per cent of Total K.V.A. Capacity	96	—	98	100	61	24
Average K.W. hours per K.V.A.	4,319	—	1,302	2,506	1,736	2,762
Fuel						
K.W. hours Generated (thousands)	84,763	33,751	2,284	2,289	535	1,860
K.V.A. Capacity Reporting	75,054	31,223	1,706	1,925	687	1,376
per cent of Total K.V.A. Capacity	90	85	76	92	70	92
Average K.W. hours per K.V.A.	1,129	1,081	1,339	1,189	779	1,308
Total						
K.W. hours Generated (thousands)	1,305,981	33,751	12,770	96,281	1,035	2,750
K.V.A. Capacity Reporting	357,796	31,223	9,762	39,425	975	1,720
per cent of Total K.V.A. Capacity	95	85	93	100	67	59
Average K.W. hours per K.V.A.	3,650	1,081	1,308	2,442	1,062	1,599
Total Hydraulic						
K.W. hours Generated (thousands)	5,353,079	49,784	390,859	177,363	6,712	2,283
K.V.A. Capacity Reporting	1,352,346	24,600	137,394	56,500	2,988	818
per cent of Total K.V.A. Capacity	94	100	90	94	69	32
Average K.W. hours per K.V.A.	3,958	2,024	2,845	3,139	2,246	2,791
Total Fuel						
K.W. hours Generated (thousands)	144,125	36,597	7,021	2,292	11,629	32,865
K.V.A. Capacity Reporting	105,076	32,193	4,319	1,955	6,904	14,210
per cent of Total K.V.A. Capacity	74	82	85	87	80	93
Average K.W. hours per K.V.A.	1,372	1,137	1,626	1,172	1,684	2,309

Tableau 13—Energie électrique produite, 1919.

Ontario	Pr. Ed. Island — Ile du Prince- Edouard	Quebec	Saskatchewan	Yukon	
TOUTES USINES					
2,802,886 644,504	840 875	1,923,560 487,561	43,035 36,421	9,538 6,180	K.W. heures produits (milliers) K.V.A. puissance potentielle
93 4,349	60 960	93 3,945	96 1,182	100 1,543	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Usines commerciales					
Hydrauliques					
1,701,303 412,569	4 30	1,900,014 474,893	— —	9,467 6,000	K.W. heures produits (milliers) K.V.A. puissance potentielle
95 4,124	10 133	95 4,001	— —	100 1,578	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
A combustible					
7,528 2,827	836 845	940 2,990	302 515	71 180	K.W. heures produits (milliers) K.W.A. puissance potentielle
12 2,663	74 989	46 314	58 586	100 394	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Total					
1,708,831 415,396	840 875	1,900,954 477,883	302 515	9,538 6,180	K.W. heures produits (milliers) K.V.A. puissance potentielle
91 4,114	60 960	94 3,978	58 586	100 1,543	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Usines municipales					
Hydrauliques					
1,093,807 228,690	— —	21,483 7,864	— —	— —	K.W. heures produits (milliers) K.V.A. puissance potentielle
97 4,783	— —	66 2,732	— —	— —	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
A combustible					
248 418	— —	1,123 1,813	42,733 35,906	— —	K.W. heures produits (milliers) K.V.A. puissance potentielle
39 593	— —	94 619	97 1,190	— —	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Total					
1,094,055 229,108	— —	22,606 9,677	42,733 35,906	— —	K.W. heures produits (milliers) K.V.A. puissance potentielle
90 4,775	— —	70 2,336	98 1,190	— —	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Total, hydrauliques					
2,795,110 641,259	4 30	1,921,497 482,757	— —	9,467 6,000	K.W. heures produits (milliers) K.V.A. puissance potentielle
96 4,359	10 133	94 3,980	— —	100 1,578	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.
Total, à combustible					
7,776 3,245	836 845	2,063 4,804	43,035 36,421	71 180	K.W. heures produits (milliers) K.V.A. puissance potentielle
14 2,396	74 989	89 429	96 1,182	100 394	pourcent. de la puissance potentielle en K.V.A. Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 14—Fuel, 1919.

Provinces	Bituminous Coal Slack — Houille bitumineuse, menue				Bituminous Coal lump — • Houille bitumineuse, morceaux				Bituminous Coal run of mine — Houille bitumineuse, tout venant			
	Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère	
	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur
	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$
Canada....	58,460	300,850	35,082	244,831	26,710	180,579	5,974	53,323	86,890	564,521	29,995	222,24
Alberta.....	7,886	33,005	—	—	—	—	—	—	10,285	55,633	—	—
Br. Columbia...	6,533	35,929	—	—	1,003	7,465	—	—	4,573	26,710	—	—
Manitoba.....	400	2,480	8,902	74,867	—	—	—	—	1,000	9,000	12,225	110,475
New Brunswick	9,052	55,987	—	—	147	1,265	—	—	28,820	188,264	—	—
Nova Scotia....	26,522	109,827	—	—	8,713	48,896	—	—	37,221	242,357	—	—
Ontario.....	—	—	20,814	123,798	—	—	5,974	53,323	165	2,000	14,653	87,913
Pr. Edw. Island	—	—	—	—	—	—	—	—	1,100	11,000	—	—
Quebec.....	300	3,000	5,366	46,166	91	919	—	—	138	1,110	3,117	23,859
Saskatchewan..	7,767	60,622	—	—	16,756	122,034	—	—	3,588	28,447	—	—
Yukon.....	—	—	—	—	—	—	—	—	—	—	—	—

Provinces	Gasoline — Gazoline				Oil Fuel — Pétrole				Wood — Bois			
	Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère	
	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur	Quan- tity — Quantité	Value — Valeur
	gal. — gallons	\$	gal. — gallons	\$	gal. — gallons	\$	gal. — gallons	\$	cord. — cordes	\$	cord. — cordes	\$
Canada....	18,472	6,654	2,312	1,002	271,066	50,082	1,115,169	52,587	12,154	63,700	—	—
Alberta.....	1,855	743	—	—	3,188	892	—	—	—	—	—	—
Br. Columbia...	270	95	500	225	66,226	10,405	125,254	20,912	2,914	9,364	—	—
Mainitoba.....	5,019	1,690	—	—	12,491	3,468	30,553	4,430	3,069	23,014	—	—
New Brunswick	—	—	—	—	—	—	869,620	10,998	965	3,130	—	—
Nova Scotia....	—	—	—	—	16,975	2,151	5,000	750	645	2,600	—	—
Ontario.....	1,100	440	—	—	370	92	—	—	2,767	13,624	—	—
Pr. Edw. Island	—	—	—	—	—	—	—	—	—	—	—	—
Quebec.....	5,100	1,638	1,612	677	4,500	500	—	—	140	821	—	—
Saskatchewan..	5,128	2,048	200	100	167,316	32,574	84,742	15,497	907	5,176	—	—
Yukon.....	—	—	—	—	—	—	—	—	747	5,971	—	—

Tableau 14—Combustible, 1919.

Anthracite Coal — Anthracite				Lignite Coal — Lignite				Coke — Coke				Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	
ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	
6,045	17,229	11,917	117,189	242,621	635,215	—	—	732	1,756	—	—	Canada
5,905	14,989	1,134	4,206	147,686	260,188	—	—	50	470	—	—	Alberta
—	—	—	—	1,440	4,320	—	—	—	—	—	—	Col. Britannique
—	—	235	3,005	17,538	64,604	—	—	—	—	—	—	Manitoba
—	—	1,440	17,880	—	—	—	—	—	—	—	—	Nouv.-Brunsw.
—	—	141	1,833	—	—	—	—	—	—	—	—	Nouv.-Ecosse
—	—	979	11,239	—	—	—	—	682	1,286	—	—	Ontario
—	—	1,004	15,310	—	—	—	—	—	—	—	—	Ile du Pr.-Ed.
—	—	4,883	33,340	—	—	—	—	—	—	—	—	Québec
140	2,240	2,101	30,376	75,957	306,103	—	—	—	—	—	—	Saskatchewan
—	—	—	—	—	—	—	—	—	—	—	—	Yukon

Gas — Gaz				Other Fuel — Autre combustible		Total		Grand total	Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien	Foreign — Etranger	Canadian — Canadien	Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur		
1,000 c. ft. — 1,000 p. c.	\$	1,000 c. ft. — 1,000 p. c.	\$	\$	\$	\$	\$	\$	
4,147,463	35,376	—	—	78,881	—	1,934,843	692,596	2,627,439	Canada
4,136,431	26,816	—	—	522	—	393,258	4,206	397,464	Alberta
—	—	—	—	4,097	—	98,385	21,137	119,522	Colombie Britannique
—	—	—	—	646	—	104,902	192,777	297,679	Manitoba
—	—	—	—	—	—	248,646	28,878	277,524	Nouveau-Brunswick
—	—	—	—	—	—	407,117	2,583	409,700	Nouvelle-Ecosse
11,032	8,560	—	—	59,136	—	83,852	276,273	360,125	Ontario
—	—	—	—	—	—	11,000	15,310	26,310	Ile du Pr.-Edouard
—	—	—	—	4,872	—	12,860	104,042	116,902	Québec
—	—	—	—	9,608	1,417	568,852	47,390	616,242	Saskatchewan
—	—	—	—	—	—	5,971	—	5,971	Yukon

RECENSEMENT INDUSTRIEL, 1919

Usines Electriques Centrales du Canada

Préparé en collaboration avec la Division des Forces Hydrauliques du
Dominion, du ministère de l'Intérieur, et avec le concours de la
Commission Hydro-Electrique d'Ontario, la Commission
des Eaux Courantes de Québec, la Commission de
l'Energie Electrique du Nouveau-Brunswick
et la Commission de la Force Motrice
de la Nouvelle-Ecosse



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1922

RECENSEMENT INDUSTRIEL DE 1919.

USINES CENTRALES ÉLECTRIQUES.

Préface.

Les données statistiques sur l'industrie de la production électrique au Canada que contient ce rapport, ont été recueillies et compilées conjointement, par le Bureau Fédéral de la Statistique et la Division des Forces Hydrauliques du Dominion, du ministère de l'Intérieur, agissant de concert. La Commission Hydro-Electrique d'Ontario nous a prêté un concours appréciable, en réunissant et vérifiant les rapports des nombreuses stations placées sous sa juridiction; d'autres part, la Commission des Eaux Courantes de Québec, la Commission de la Force Motrice Electrique du Nouveau-Brunswick et la Commission de la Force Motrice de la Nouvelle-Ecosse y ont également contribué, en fournissant les listes des stations de leurs provinces respectives. Ce rapport a été compilé sous la direction de M. G. S. Wrong, B.Sc., du Bureau Fédéral de la Statistique; le rapport et les informations fournies par les industriels ont été pointés, sous la direction de M. J. T. Johnston, directeur-adjoint des Forces Hydrauliques, par M. Alexander Roger, ingénieur de la Division des Forces Hydrauliques du Dominion.

Le Bureau Fédéral de la Statistique offre ses sincères remerciements aux administrations plus haut énumérées, ainsi qu'aux gérants des usines électriques qui ont bien voulu répondre aux questions quelque peu compliquées qui leur ont été posées.

R. H. COATS,
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,
OTTAWA, 9 novembre 1921.

Notice sur les forces hydrauliques du Canada.

Le Canada est très riche en ressources hydrauliques. Presque tous les grands centres industriels de ce pays se servent actuellement de l'énergie hydro-électrique et possèdent, dans leur voisinage immédiat, d'amples réserves de force hydraulique. *Plus de 90 pour cent du total de la force motrice utilisée par les usines électriques du Canada, dérive de l'eau.*

Les ressources hydrauliques du Dominion sont administrées tantôt par les autorités fédérales et tantôt par les gouvernements provinciaux. Celles qui se trouvent dans l'Alberta, la Saskatchewan, le Manitoba, le Yukon et les territoires du Nord-Ouest, sont placées sous la gestion immédiate de la Division des Forces Hydrauliques du Dominion, du ministère de l'Intérieur. Dans le reste du pays, les forces hydrauliques sont administrées par les organismes suivants: en Colombie Britannique, le ministère des Terres; dans Ontario, le ministère des Terres et Forêts; dans Québec, le ministère des Terres et Forêts; en Nouvelle-Ecosse, le Commissaire des Travaux Publics et des Mines; au Nouveau-Brunswick, le ministère des Terres et des Mines; dans l'île du Prince-Edouard, le Commissaire des Travaux Publics.

Dans les provinces du Manitoba, d'Ontario, du Nouveau-Brunswick et de la Nouvelle-Ecosse, des commissions gouvernementales ont été constituées, soit pour la captation, soit pour l'achat de la force motrice, ainsi que pour la transmission et la distribution de l'énergie électrique. C'est la province d'Ontario qui a obtenu le plus grand succès dans cette direction, au moyen de sa Commission Hydro-Electrique, constituée en 1905. En général, cette Commission se substitue à l'action des municipalités, en se chargeant, soit de produire, soit d'acheter l'énergie électrique, sous le principe coopératif. Elle agit également au nom et pour le compte du gouvernement provincial, lequel fournit les fonds nécessaires à l'entreprise. En 1919, cette Commission fournissait de l'énergie électrique à 217 municipalités et exploitait 14 usines, développant au total 284,449 chevaux-vapeur. Les Commissions de la Force Motrice du Manitoba et de la Nouvelle-Ecosse, formées en 1919, et la Commission de Force Motrice Electrique du Nouveau-Brunswick créée en 1920, fonctionnent à peu près de la même manière que la Commission Hydro-Electrique d'Ontario. Au Manitoba, la Commission achète à la cité de Winnipeg la force motrice et la transmet à Portage la Prairie et aux autres villes du sud de la province. Dans le Nouveau-Brunswick et la Nouvelle-Ecosse, les commissions s'occupent actuellement de la captation de forces hydrauliques, qui fourniront à brève échéance, du courant électrique aux cités de St-John, N.-B., et Halifax, N.-E. Dans la province de Québec, il n'existe pas de commission gouvernementale de cette nature: toutefois, la Commission des Eaux Courantes de Québec travaille activement à l'étude des chutes d'eau et à la construction de réservoirs, pour le développement des forces hydrauliques.

La Division des Forces Hydrauliques du Dominion, de concert avec les différentes organisations provinciales, a procédé à une analyse coordonnée des forces hydrauliques de la Puissance, ce qui lui a permis d'en dresser l'inventaire que nous donnons ci-dessous:

Provinces.	Force motrice utilisable en 24 heures, à 80 pour cent du débit.		Turbines installées, ch.-vapeur.
	Au minimum habituel du débit, ch.-vapeur.	Au maximum de débit (pendant six mois.) ch.-vapeur.	
1	2	3	4
Colombie Britannique.....	1,931,142	5,013,460	304,535
Alberta.....	475,281	1,137,505	32,492
Saskatchewan.....	513,481	1,087,756	.....
Manitoba.....	3,270,491	5,769,444	83,447
Ontario.....	4,950,300	6,808,190	1,052,048
Québec.....	6,915,244	11,640,052	925,972
Nouveau-Brunswick.....	50,406	120,807	21,180
Nouvelle-Ecosse.....	20,751	128,264	35,774
Ile du Prince-Edouard.....	3,000	5,270	1,933
Yukon et Territoires du Nord-Ouest.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,470,580

Les chiffres des colonnes 2 et 3 comprennent uniquement les rapides, chutes-etc., susceptibles de captation et dont le débit utilisable est bien connu ou, tout au moins, approximativement établi. Il existe, d'un littoral à d'autre, de nombreux pouvoirs d'eau, d'une puissance variable, qui n'ont pas encore été inventoriés. Néanmoins, on peut admettre sans commettre d'erreur, que le Canada possède et peut utiliser 18,225,000 chevaux-vapeur, développés pendant 24 heures sans interruption, tandis que ce volume s'élève pendant au moins six mois de l'année à 32,076,000 chevaux-vapeur.

Le Canada possède des turbines installées, produisant 2,470,850 chevaux-vapeur. Une analyse détaillée de la relation existant entre cette machinerie en action—prenant en considération les réservoirs locaux et les facteurs de charge—et les forces hydrauliques utilisables correspondantes indique, qu'à l'heure actuelle, *les forces hydrauliques de la Puissance reconnues et susceptibles de captation*, permettent l'installation de turbines développant 41,700,000 chevaux-vapeur. En d'autres termes, les turbines fonctionnant aujourd'hui ne représentent que 5.9 pour cent du total des forces utilisables. A l'appui de cette assertion, on peut citer le cas des provinces du Nouveau-Brunswick et de la Nouvelle-Ecosse; une étude approfondie des ressources hydrauliques de ces provinces a révélé la possibilité de construire, à peu de frais, des réservoirs régulateurs du débit des cours d'eau, si bien qu'en tenant compte du facteur de diversité entre les forces hydrauliques et les besoins des consommateurs, ces deux provinces possèdent respectivement 200,000 et 300,000 chevaux-vapeur utilisables, au lieu des chiffres très inférieurs portés au tableau ci-dessus.

Avec 275 chevaux-vapeur développés par 1,000 habitants, le Canada occupe une situation privilégiée au point de vue des ressources hydrauliques disponibles et utilisables, n'étant surpassé à cet égard que par la Norvège. L'énorme volume des forces hydrauliques restant en réserve, assure l'exploitation et le développement graduels des autres richesses naturelles du pays, tout spécialement si on les fait servir à la mise en valeur des immenses ressources houillères de la Puissance.

OTTAWA, 9 novembre 1921.

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INTRODUCTION ET RÉSUMÉ.

Le présent rapport contient l'analyse statistique des résultats du troisième recensement annuel des usines électriques du Canada et présente un inventaire complet de l'industrie électrique à la date du premier janvier 1920.

On peut se rendre compte de l'importance du développement de l'industrie de la production de l'électricité au Canada, par le fait que cette industrie absorbe des capitaux très supérieurs à ceux de toutes autres industries canadiennes, puisque ses capitaux dépassent de plus de 50 pour cent ceux de l'industrie qui la suit immédiatement, ainsi qu'on le verra dans la liste suivante:

Industries.	Capitaux absorbés en 1919.
Usines électriques.....	\$ 416,000,000
Pulperies et papeteries.....	275,000,000
Scieries.....	231,000,000
Fonderies.....	100,000,000
Conserves de viande.....	93,000,000
Minoteries.....	76,000,000
Houillères.....	63,000,000
Filatures de coton.....	58,000,000
Fabriques de chaussures.....	38,000,000
Filatures de laine.....	21,000,000

La différence entre les capitaux qu'absorbent les usines électriques et les capitaux placés dans les industries manufacturières, s'augmente encore de ce fait que l'on fait figurer pour ces dernières industries, comme capitaux, la valeur de toutes les matières premières en main, des produits en voie de fabrication et des produits ouverts.

La comparaison des chiffres de ce rapport avec ceux des premier et second recensements, démontre que de nombreux et importants changements se sont produits dans cette industrie. La tendance vers la fusion qui se manifeste généralement dans maintes industries, est également apparente ici dans l'accroissement sensible du nombre des stations non productrices par rapport aux stations productrices. Un nombre considérable d'usines nouvelles ont été achevées et mises en exploitation pendant l'année. On a poussé vigoureusement les travaux des usines en voie de construction et plusieurs autres ont été commencées. De plus, nombre d'usines en existence augmentent leur capacité, soit en installant des unités additionnelles, soit en remplaçant leurs machines par d'autres plus puissantes.

Dans Ontario, l'usine de Nipigon, de la Commission Hydro-Electrique, a été achevée et a commencé à fournir de l'électricité à Port Arthur le 20 décembre 1920. Les travaux exécutés à High Falls pour le compte de la même Commission, ont également été achevés et, dès le premier mai 1920, cet établissement fonctionnait. On a travaillé très activement à la grande construction de Chip-pawa-Queenston et l'on espère qu'elle pourra être mise en service avant la fin de 1921. La Commission a commencé la construction, à Campbellford, d'une usine de 10,000 chevaux-vapeur, pour satisfaire aux besoins rapidement croissants de sa clientèle de l'Ontario central. Deux nouvelles turbines, de 20,000 chevaux-vapeur chacune, ont été installées à l'usine que possède "The Ontario Power Company" à Niagara Falls, portant cette usine à son maximum de capacité, c'est-à-dire 228,200 chevaux-vapeur; une troisième turbine de 5,600 che-

vaux-vapeur a été installée à l'usine de Healy Falls, qui dépend du réseau de l'Ontario central de la Commission Hydro-Electrique d'Ontario, laquelle porte la machinerie de ce réseau à son maximum de capacité.

Dans Québec, la Corporation d'Énergie de Montmagny a installé et mis en exploitation une usine développant 3,600 chevaux-vapeur sur la rivière du Sud, à Saint-Raphaël, à 14 milles de Montmagny. "The Cedars Rapids Mfg. & Power Company" installe deux unités, de 10,800 chevaux-vapeur chacune. "The Shawinigan Water & Power Company" installe une turbine de 42,000 chevaux-vapeur à l'usine de Shawinigan Falls" et "The Laurentides Power Company" installe deux turbines de 21,000 chevaux-vapeur chacune, à l'usine de Grand'Mère, laquelle est également exploitée par "The Shawinigan Water & Power Company". La municipalité de Sherbrooke place une turbine de 1,700 chevaux-vapeur dans son usine de Weedon. La Société d'Éclairage et d'Énergie Électrique de Saguenay a ajouté à la machinerie de son usine de Chicoutimi, deux turbines de 2,400 chevaux-vapeur chacune; enfin, "The Southern Canada Power Company" vient de terminer la reconstruction de son usine de Drummondville, portant sa capacité à 7,000 chevaux-vapeur.

Au Manitoba, "The Winnipeg River Power Company" continue ses travaux à Great Falls. À l'usine de Pointe du Bois, appartenant à la cité de Winnipeg, trois nouvelles turbines, de 6,900 chevaux-vapeur chacune, ont été installées. Des additions considérables ont aussi été faites par "The Winnipeg Electric Railway Company", à la machinerie de son usine de Pinawa.

Les Commissions gouvernementales de la Nouvelle-Ecosse et du Nouveau-Brunswick dirigent d'importants travaux. La Commission de force motrice de la Nouvelle-Ecosse procède à l'installation, sur les rivières North-East et Indian, à St. Margaret's Bay, d'une turbine de 15,000 chevaux-vapeur, qui fournira de l'électricité à Halifax et ses environs, tandis que la Commission de Force Motrice Electrique du Nouveau-Brunswick crée une prise d'eau au point de jonction des eaux douces et des eaux salées sur la rivière Musquash, qui doit donner 11,000 chevaux-vapeur. "The Bathurst Lumber Company" construit une usine hydro-électrique contiguë à sa pulperie et à sa scierie de Grand Falls, sur la rivière Nipisiguit; la même compagnie vend 500 chevaux-vapeur à la Commission de Force Motrice Electrique du Nouveau-Brunswick, en attendant que soit achevée la construction d'une station sur la rivière Tetagouche, pour le compte de la dite Commission. Ce courant est distribué par la Commission à Bathurst et à Newcastle.

Enfin, de nombreuses petites usines se construisent dans tout le pays et d'autres usines électriques, jusque-là de peu d'importance, sont agrandies et modernisées.

Nature et cadre du présent rapport.

Pour les fins du recensement, une usine électrique centrale est ainsi définie: une usine ou organisation qui vend ou qui distribue de l'énergie électrique. L'énergie distribuée peut être produite par l'organisation qui la distribue; elle peut être achetée en bloc de quelque autre organisation, ou bien elle peut être partiellement achetée et partiellement produite par la compagnie qui la vend. Les organisations produisant tout ou partie de la force motrice qu'elles distribuent, rentrent dans la catégorie des usines productrices, tandis que celles qui achètent la totalité de leur force motrice, constituent la catégorie des usines non productrices. Chacun de ces deux types fondamentaux d'usine, se subdivise en usines commerciales ou municipales, les premières appartenant à des compagnies ou à des particuliers et les autres appartenant aux municipalités. De plus, les usines productrices sont subdivisées en usines hydrauliques et en usines consommant du combustible.

Sous cette définition, chaque usine engendrant individuellement l'électricité et chaque organisation distincte distribuant l'énergie électrique, sont consi-

dérées comme une entité distincte, nonobstant le fait que nombre des unes et des autres sont exploitées par une organisation unique, telle que, par exemple les différentes commissions provinciales. Il s'en suit que le nombre des usines énumérées excède le nombre des corporations publiques et privées, vendant de l'énergie électrique.

Par conséquent, ce rapport présente une analyse de l'industrie électrique, c'est-à-dire de la production d'énergie électrique, pour la vente ou la distribution. Il laisse de côté les données concernant la force motrice électrique produite pour d'autres fins, telles que l'exploitation de différentes industries.

La facilité de transmission de l'énergie électrique, son adaptation à presque tous les besoins domestiques, industriels et municipaux, et l'utilisation avantageuse des forces hydrauliques, à la production de l'éclairage pendant les heures de repos des établissements industriels, créent un enchevêtrement, rendant très difficile l'obtention de données exactes. L'analyse de ces données est compliquée par la difficulté d'apportionner la partie des capitaux engagés, des recettes, des appointements et salaires, des frais généraux, etc., concernant exclusivement les usines électriques centrales, car fréquemment, le grand nombre de leurs filiales ou des industries connexes qu'elles desservent absorbent la plus grande partie de leurs activités industrielles, si bien que la production de l'énergie électrique pour la vente, ne représente qu'une production accessoire. Au regard de ces industries multiples, on a eu grand soin de n'allouer à l'usine électrique centrale que la proportion des capitaux, des recettes, des dépenses, des appointements et salaires, etc., qui lui appartient réellement. Dans quelques cas, la seule méthode possible d'allocation fut d'établir un prorata de l'énergie vendue par rapport à l'énergie produite, après déduction de ce qui regarde l'exploitation des réseaux de transmission et de distribution et des autres détails concernant exclusivement les usines.

L'adaptabilité de l'énergie électrique à la transmission à longue distance, contribue aussi à établir une certaine confusion. Par exemple, on peut citer le cas d'une compagnie bien connue qui exploite ses propres usines; exploite, en vertu d'un bail, une usine appartenant à une autre compagnie; exploite un vaste réseau de lignes de transmission; vend tout à la fois du courant électrique et de la force motrice mécanique aux consommateurs; vend de la force motrice en bloc à ses compagnies filiales, dont quelques-unes exploitent leurs propres usines génératrices, et vend également de la force motrice en bloc à des usines électriques indépendantes, soit productrices, soit non productrices, dont certaines exploitent des réseaux de transmission presque aussi compliqués que celui de la compagnie qui nous occupe. Les opérations de la Commission Hydro-Electrique d'Ontario fournissent également un exemple de l'enchevêtrement des usines centrales électriques.

Nous faisons figurer dans ces statistiques, quarante usines fonctionnant au moyen du combustible et servant d'auxiliaires aux usines électriques; trente-neuf d'entre elles sont des auxiliaires des usines hydrauliques, l'autre étant l'auxiliaire d'une usine non productrice achetant son électricité d'une usine hydraulique. On a pu établir un inventaire séparé de la machinerie de ces stations, mais tout ce qui les concerne, financièrement parlant, se trouve nécessairement confondu avec les usines centrales dont elles dépendent.

En vue de restreindre le volume de ce rapport, il a été jugé nécessaire de modifier la forme des tableaux qui accompagnaient les rapports précédents.

Résumé général.

Sommaire des caractéristiques principales.—Les principales caractéristiques de l'industrie électrique sont synthétisées dans le tableau I, où l'on trouve une intéressante comparaison entre les chiffres de 1919 et ceux de 1918, selon le genre d'usines et la forme de leur organisation commerciale. Etant donné que l'on avait négligé, pour l'année 1918, d'établir la longueur du circuit des lignes

sur poteaux, ainsi que le nombre total de kilowatts-heure engendrés et la valeur du service gratuit, toutes choses qui paraissent dans les chiffres de 1919, il n'est pas possible d'établir de comparaison à cet égard.

805 usines ont envoyé le rapport de leurs opérations pour l'année terminée le 31 décembre 1919; 358 d'entre elles, soit 44.5 pour cent sont des usines commerciales et 447 ou 55.5 pour cent, sont des usines municipales.

493 usines, soit 61.27 pour cent du total, possèdent des dynamos et produisent tout ou partie de l'énergie qu'elles distribuent, tandis que les 312 autres ou 38.87 pour cent sont dépourvus de dynamos et achètent la totalité du courant qu'elles distribuent. On remarquera que les usines commerciales prédominent, lorsqu'il s'agit des organisations productrices, mais c'est le contraire qui se produit dans le groupe des usines non productrices. Cette disparité est largement attribuable à la pratique de la Commission Hydro-Electrique d'Ontario, de vendre de l'énergie en bloc à des commissions municipales locales qui la distribuent, 217 sur 260 des usines municipales non productrices étant dans ce cas.

Sur les 493 usines productrices, 272 ou 55.2 pour cent dérivent leur pouvoir de l'eau, et 221 ou 44.8 pour cent, du combustible. A ce propos, il est utile de se reporter à l'un des tableaux de ce rapport, relatif à la machinerie fournissant la force motrice primaire dans ces deux catégories d'usines. Il est bien vrai que presque la moitié des usines emploient du combustible, mais, néanmoins, plus de 91 pour cent de l'électricité est produite par les usines hydrauliques.

L'industrie électrique absorbe des capitaux qui s'élèvent à \$416,012,010, dont \$371,616,056 servent effectivement à la production de l'électricité et se subdivisent ainsi: \$157,375,368 représentant le coût des sites et de l'usage de l'eau pour les usines productrices, le coût des sous-stations et des postes de réception et de transformation, ainsi que les droits de passage des réseaux de transmission et de distribution et de conduites souterraines; enfin, la construction des bâtiments, des barrages, des biefs et des vannes; \$123,762,689 représentent la valeur de la machinerie et de l'agencement des usines principales et auxiliaires, des sous-stations et des postes de réception et \$90,488,009 représentent le coût des réseaux de transmission et de distribution. Les matières premières et différentes fournitures en stock absorbent \$6,702,219, et, enfin, les fonds de roulement, c'est-à-dire l'argent en caisse ou en banque, les factures à recouvrer et les billets à recevoir s'élèvent à \$38,193,735. Les usines commerciales absorbent une partie de ces capitaux, égale à \$287,558,443 ou 69 pour cent, tandis que la part des usines municipales est de \$128,953,567 ou 31 pour cent. D'autre part, \$365,389,364 ou 87.7 pour cent de ce total sont placés dans les usines productrices et \$51,122,646 dans les usines non productrices.

La vente de l'énergie électrique a produit au total \$57,853,392, dont \$35,552,867 ou 61.5 pour cent ont été encaissés par les usines commerciales et \$22,300,525 ou 38.5 pour cent par les usines municipales. Les usines productrices ont reçu pour leur part \$45,420,566 ou 79 pour cent, et les usines non productrices \$12,432,826 ou 21 pour cent. Faisons observer ici que, quoique ce dernier chiffre représente les recettes provenant de la revente d'énergie achetée en bloc pour être distribuée, il ne représente pas la totalité des recettes provenant de cette source. Nombre de stations productrices achètent des quantités considérables d'énergie pour supplémenter leur propre production, mais il a été impossible d'établir une distinction entre les recettes provenant de l'une et de l'autre de ces sources.

Différentes usines électriques signalaient certaines distributions d'électricité faites à titre gratuit. Au taux normal du commerce, la valeur de ce service gratuit se totalisait par \$267,441 et servait à l'éclairage des rues, des parcs, des édifices publics, etc., généralement en compensation de certaines concessions, telles que: monopole, exemption ou limitation de taxes, etc. Les usines commerciales ont contribué à ce service gratuit, à concurrence de \$37,514 ou

14 pour cent, et les usines municipales à concurrence de \$229,927 ou 86 pour cent. La part attribuée aux usines productrices dans ce service gratuit est évaluée à \$202,221, et celle des stations non productrices à \$65,220.

Les frais généraux de toutes sortes de l'industrie électrique atteignent la somme de \$34,341,923; ils consistent en traitements, appointements et salaires, coût du combustible, loyer de bureaux, d'usines et de machinerie; coût de l'énergie électrique achetée en bloc pour la distribution, primes d'assurance, taxes diverses, frais de publicité et de voyage, coût des réparations aux bâtiments et installation et, enfin, dépenses diverses; dans ces frais généraux, la part des usines commerciales est de \$19,201,892 ou 55.9 pour cent, et la part des usines municipales de \$15,140,031 ou 44.1 pour cent. Ces frais généraux portent sur les usines productrices, à concurrence de \$24,281,570 et sur les usines non productrices, à concurrence de \$10,060,353.

Dans l'ensemble de ces frais généraux, on trouve une somme de \$9,919,902, prix de l'énergie électrique achetée en bloc pour distribution; de ce montant \$3,505,288 ou 35.3 pour cent ont été payés par les usines commerciales et \$6,414,614 ou 64.7 pour cent par les usines municipales. Cette énergie est achetée en bloc aux usines électriques centrales, dont les rapports figurent dans les présentes statistiques, ces achats étant faits tant par les usines productrices que par les non productrices, les dernières y ayant contribué pour \$5,468,782 et les premières pour \$4,451,120.

Le personnel occupé par l'industrie électrique comprenait 9,656 personnes, dont les traitements, appointements et salaires formaient un total de \$11,487,132. Les usines commerciales employaient 5,168 personnes dont la rémunération atteignait \$5,989,049, soit une moyenne de \$1,159 par personne, tandis que les usines municipales faisaient travailler 4,488 personnes, dont les gains représentaient \$5,498,083, soit une moyenne de \$1,225 par personne. Si l'on considère qu'un nombre appréciable de ces employés ne sont employés, tantôt que quelques heures par jour à des réparations, et tantôt à des intervalles irréguliers pour le relevé des compteurs ou la perception, ces moyennes ne donnent pas une idée exacte des appointements et salaires de ce personnel. Il en est tout particulièrement ainsi dans les usines municipales non productrices, où la vente de l'énergie électrique ne constitue que l'accessoire de quelque autre industrie.

L'ensemble des réseaux de transmission et de distribution, c'est-à-dire des conduites sur poteaux et sur tours, atteint une longueur de 18,911 milles, en laissant de côté la longueur des fils eux-mêmes, qui serait nécessairement beaucoup plus grande; les réseaux consacrés exclusivement à la transmission, ont une longueur de 7,419 milles et ceux affectés à la distribution de 11,492 milles; les usines commerciales en possédaient 11,229 milles et les usines municipales 7,682 milles; d'autre part, 14,556 milles étaient exploités par les usines productrices et 4,335 milles par les usines non productrices.

L'énergie électrique produite, représente 5,497,204,000 kilowatt-heures. A cet égard, il est utile de faire remarquer que les plus petites stations, faute de totalisateur, n'ont pu fournir des chiffres exacts. La capacité des dynamos composant la machinerie de ces petites stations est à peu près égale à 8 pour cent du total de l'ensemble des dynamos, mais leur production est incontestablement de beaucoup inférieure à 8 pour cent du total, étant donné que dans ces petites usines, les dynamos ne fonctionnent que pendant une partie du jour.

Le matériel de tous types fournissant la force motrice primaire développe 2,024,918 chevaux-vapeur, dont 1,907,135 chevaux-vapeur dans les usines principales et 117,783 chevaux-vapeur dans les usines auxiliaires. La machinerie des usines principales est installée, à concurrence de 1,428,918 chevaux-vapeur ou 74.9 pour cent, dans les usines commerciales et à concurrence de 478,217 chevaux-vapeur ou 25.1 pour cent dans les usines municipales. En ce qui concerne les usines auxiliaires, la proportion est à peu près la même dans l'une et l'autre de ces catégories. Le relevé du nombre et de la puissance

des différents types de machines fournissant l'énergie primaire, d'une part, et l'énumération analytique de ces unités dans les différents tableaux de ce rapport, d'autre part, fournissent des données très complètes pour l'étude de cette branche particulièrement intéressante de la statistique.

La machinerie fournissant l'énergie primaire dans les usines principales, laquelle développe 1,907,135 chevaux-vapeur, se décompose ainsi qu'il suit: machines à vapeur et turbines à vapeur 155,933 chevaux-vapeur, dont 43·5 pour cent dans les usines commerciales et 56·5 pour cent dans les usines municipales; turbines et roues hydrauliques 1,736,981 chevaux-vapeur, dont 78·1 pour cent dans les usines commerciales et 21·9 pour cent dans les usines municipales; moteurs à explosion 14,221 chevaux-vapeur, dont 33·6 pour cent dans les usines commerciales et 66·4 pour cent dans les usines municipales. Dans les usines auxiliaires, les machines fournissant l'énergie primaire développent 117,783 chevaux-vapeur se répartissant ainsi: machines à vapeur 15,060 chevaux-vapeur; turbines à vapeur 102,500 chevaux-vapeur; moteurs à gaz et à pétrole 223 chevaux-vapeur.

La puissance totale des dynamos des usines principales atteint 1,487,790 kilo-volt-ampères, dont 1,112,494 kilo-volt-ampères dans les usines commerciales et 375,296 kilo-volt-ampères dans les usines municipales. Les dynamos à courant alternatif produisent 1,474,969 kilo-volt-ampères et les dynamos à courant direct 12,821 kilowatts. Les dynamos des usines auxiliaires fournissent 88,395 kilo-volt-ampères.

Analyse des usines.

Le tableau 2 a pour but d'indiquer le nombre total des usines électriques centrales, d'abord pour le Canada tout entier et ensuite pour chacune des provinces, une distinction étant établie entre ces usines, selon leur type et le caractère de leur organisation commerciale. Parmi les 805 usines recensées, 380 ou 47·2 pour cent se trouvent dans l'Ontario, 146 ou 18·1 pour cent dans Québec; 61 ou 7·6 pour cent dans la Saskatchewan, 59 ou 7·3 pour cent dans la Colombie Britannique, 52 ou 6·5 pour cent dans l'Alberta, 40 ou 5·0 pour cent dans la Nouvelle-Ecosse, 29 ou 3·6 pour cent au Manitoba, 25 ou 3·1 pour cent au Nouveau-Brunswick, 9 ou 1·1 pour cent dans l'Île du Prince-Edouard et 4 ou 0·5 pour cent au Yukon.

Nous avons déjà dit que la prédominance d'Ontario est principalement attribuable à la méthode de distribution employée par la Commission Hydro-Electrique de cette province, mais on doit également remarquer que cette province possède aussi le plus grand nombre d'usines génératrices, soit 141 ou 28·6 pour cent du total; Québec vient ensuite avec 107 ou 21·7 pour cent du total.

Dans le même tableau, on voit aussi une analyse des usines productrices d'après la source de leur pouvoir, 272 d'entre elles ou 55·2 pour cent étant hydrauliques et 221 ou 44·8 pour cent consommant du combustible. Il convient d'examiner ces chiffres en les rapprochant de ceux relatifs à la machinerie fournissant l'énergie primaire dans les deux types d'usines, tels que ces chiffres ressortent du tableau 1. Il est bien vrai que presque la moitié des usines consomment du combustible et cependant, plus de 91 pour cent de l'énergie produite, est fournie par les usines hydrauliques.

Toujours dans le même tableau, on trouve une intéressante analyse des usines électriques, tant pour le Canada que pour chacune des provinces, par types de machines ou par combinaisons de types de machines, tant au point de vue de l'énergie primaire que de la transformation par les dynamos. Sur les 493 usines productrices, 233 n'ont d'autre source de pouvoir que l'eau; 39 autres développent aussi leur pouvoir par l'eau, mais possèdent une machinerie auxiliaire, consommant du combustible, afin de pourvoir soit à la disette d'eau, soit aux accidents possibles, soit enfin à l'excédent d'énergie nécessaire aux heures de plus grande consommation; 109 usines fonctionnent uniquement au moyen

de machines à vapeur, 5 n'ont que des turbines à vapeur, 13 possèdent tout à la fois des machines à vapeur et des turbines à vapeur; 87 usines dérivent leur pouvoir uniquement de machines à combustion interne, 6 ont tout à la fois des machines à vapeur et des moteurs soit à gaz, soit à pétrole; enfin une possède des turbines à vapeur et des moteurs à gaz et à pétrole.

405 usines n'ont que des dynamos à courant alternatif, 73 n'ont que des dynamos à courant direct et 15 ont des dynamos de ces deux sortes.

Statistiques financières.

Nous avons déjà fait allusion à la difficulté d'obtenir les statistiques financières exactes des usines électriques qui consomment la plus grande partie de l'énergie qu'elles produisent et dont la vente du surplus n'est pour elles qu'accèssoire. Dans les cas de cette nature, on a pris grand soin de déterminer la proportion des capitaux, des recettes et des dépenses de toutes sortes concernant exclusivement l'usine électrique, laissant de côté la part applicable à l'industrie connexe.

Il existe deux exemples frappants d'une exploitation à double fin, dans laquelle l'usine électrique centrale joue un rôle au moins égal, sinon plus important que celui de l'industrie connexe: il s'agit de la fourniture d'électricité pour la circulation des tramways et pour le pompage de l'eau des aqueducs. Parfois, le tramway ou l'aqueduc et l'usine sont exploités par deux sections différentes de la même organisation, l'usine électrique étant payée en espèces ou tout au moins dûment créditée de la valeur du courant qu'elle fournit, système qui facilite les statistiques séparées. Dans d'autres cas, les deux exploitations se font conjointement, la même machinerie fournissant la force motrice nécessaire aux tramways ou à l'aqueduc, aussi bien que le courant vendu par l'usine électrique. Lorsqu'il en est ainsi, on a dû procéder à une estimation, approximative il est vrai, mais aussi rapprochée que possible de la réalité.

Capitaux absorbés par les usines électriques.

Le tableau 3 est consacré aux capitaux placés dans l'industrie électrique, tant pour le Canada que pour chacune des provinces, dans chaque groupe et pour chaque catégorie d'usines. Le même tableau fait également ressortir la moyenne du capital, par cheval-vapeur, de la machinerie fournissant l'énergie primaire, d'abord en y comprenant la machinerie des usines auxiliaires et ensuite, en l'excluant; on y trouve enfin la moyenne du capital par kilo-volt-ampère des dynamos, établie sur une base identique. Les capitaux absorbés par cette industrie s'élèvent à \$416,502,010, dont \$157,375,358 représentés par la valeur des terrains, des bâtiments et de l'aménagement, \$123,762,689, représentés par la machinerie des usines tant principales qu'auxiliaires, \$90,478,009 représentant la valeur des réseaux de transmission et de distribution, \$6,702,219, coût de toutes les matières premières et approvisionnements en stock et, enfin, \$38,193,735 pour les fonds de roulement, factures à recouvrer et billets à recevoir.

Sur le total ci-dessus, \$287,158,443 appartiennent aux usines commerciales, celles produisant l'électricité y contribuant à concurrence de \$275,581,372 et les usines non productrices à concurrence de \$11,977,071.

Quant aux usines municipales, elles absorbent \$128,953,567, dont \$89,807,992 pour les usines productrices et \$39,145,575 pour les usines non productrices.

D'où il suit que les capitaux assurant le fonctionnement de toutes les usines productrices se montent à \$365,389,364, tandis que ceux affectés aux usines non productrices s'élèvent à \$51,122,646.

La moyenne du capital par cheval-vapeur de la machinerie fournissant l'énergie primaire dans les usines principales, pour l'ensemble du Canada, est de \$218, et par kilo-volt-ampère des dynamos, \$280. Si on y ajoute la machi-

nerie des usines auxiliaires, ces chiffres deviennent alors respectivement \$200 et \$264. Ainsi que nous l'avons déjà dit, il est impossible d'établir un bilan se rapportant exclusivement aux usines auxiliaires, de telle sorte que le capital placé, par unité de production, y compris la machinerie de l'usine auxiliaire, est la base d'analyse la plus logique. D'ailleurs, presque toujours, les usines auxiliaires ne fonctionnent pas avec régularité, mais sont surtout destinées à pourvoir aux besoins casuels.

Recettes provenant de la vente d'électricité.

Le tableau 4 représente une analyse des recettes provenant de la vente d'électricité, tant pour le Canada que pour chacune des provinces, ces données étant indiquées pour chaque catégorie d'usines avec distinction entre les recettes provenant de l'électricité vendue pour l'éclairage exclusivement, et celle vendue pour tout autre objet. En examinant les chiffres de ce tableau, il convient de remarquer qu'on y fait figurer le produit de la revente de l'énergie électrique achetée en bloc par une usine centrale à une autre usine centrale et que dans quelques cas, la vente et la revente du même courant, produisent des recettes à trois usines avant d'atteindre le consommateur. Il est supposable que les recettes provenant de la seconde ou de la troisième vente sont entrées dans la caisse des usines distributrices, mais ce n'est là qu'une hypothèse, car un nombre considérable d'usines productrices achètent du courant en bloc pour supplémenter leur propre production.

Dans le même tableau on peut voir aussi la moyenne des recettes des usines productrices, par cheval-vapeur de la machinerie fournissant l'énergie primaire et par kilo-volt-ampère de la capacité des dynamos, soit avec, soit sans les usines auxiliaires.

Service gratuit.

Il a déjà été dit dans l'introduction qu'un certain nombre d'industriels distribuent une petite proportion de leur production électrique sans recettes équivalentes. Ce courant est donné gratuitement aux municipalités pour l'éclairage des rues, des parcs, des édifices publics, etc., généralement en retour de quelque concession obtenue, soit un monopole, une exemption ou une limitation de taxes; la valeur de ce courant, au tarif ordinaire, est indiquée dans le tableau 5. Ce service gratuit est le lot presque exclusif des usines municipales. Le courant ainsi distribué valait \$267,441; les usines municipales y ont contribué pour 86 pour cent et les usines commerciales pour 14 pour cent.

Dépenses d'exploitation.

Le tableau 6 donne tous les détails des dépenses d'exploitation de l'industrie électrique, avec division entre les groupes et catégories d'usines et sous les rubriques suivantes: appointements, traitements et salaires, coût du combustible et dépenses diverses, ce dernier item comprenant les sommes payées pour l'achat de courant électrique. Il est intéressant de noter que ces achats de courant ont coûté \$9,919,902, dont \$4,451,120 ou 44.9 pour cent ont été payés par les usines productrices et \$5,468,782 ou 55.1 pour cent par les usines non productrices.

Employés et main-d'œuvre.

Le tableau 7 présente un résumé, par provinces, du personnel des différents types d'usines, avec distinction entre la main-d'œuvre salariée et les employés des bureaux. On se rendra compte des difficultés rencontrées pour connaître exactement l'importance du personnel occupé par cette industrie, par le fait qu'un grand nombre d'usines non productrices n'emploient qu'une ou deux

personnes et même, parfois, pendant une partie de la journée seulement. D'autre part, maintes usines productrices ont des employés dont le temps est partagé entre l'usine elle-même et les exploitations qui lui sont connexes: tramways, mines, aqueducs, manufactures. Dans les cas de cette nature, on a dû se livrer à une estimation minutieuse du nombre du personnel.

Salaires hebdomadaires classifiés.

Les ouvriers et journaliers de cette industrie sont classifiés par sexe et par importance de leur salaire dans le tableau 8, qui fournit une intéressante comparaison des salaires payés dans différentes provinces. Ainsi que l'on pouvait s'y attendre, les salaires sont sensiblement plus élevés dans les provinces de l'ouest que dans l'est.

Dans la Colombie Britannique, 97 pour cent des ouvriers et journaliers reçoivent \$20 ou plus par semaine, dans la Saskatchewan 92 pour cent, au Manitoba 91 pour cent, et dans l'Alberta 84 pour cent, tandis que cette catégorie ne représente que 25 pour cent dans l'Île du Prince-Edouard, 59 pour cent dans Québec, 62 pour cent dans Ontario, 65 pour cent dans la Nouvelle-Ecosse et 70 pour cent au Nouveau-Brunswick. Parmi les employés du sexe masculin, 22.8 pour cent reçoivent un salaire hebdomadaire égal ou supérieur à \$30 et 69.8 pour cent, un salaire égal ou supérieur à \$20.

Longueur des lignes sur poteaux.

Les lignes sur poteaux font l'objet du tableau 9, qui nous indique d'abord leur longueur totale, tant au Canada que dans chacune des provinces, puis la longueur des lignes de transmission et des lignes de distribution; de plus, une distinction est établie entre les réseaux appartenant aux différents groupes et catégories d'usine.

Ontario tient la tête avec un réseau dont la longueur totale atteint 7,908 milles, divisés presque également entre les lignes de transmission et les lignes de distribution. Québec vient ensuite, avec 4,094 milles, presque également divisés entre la transmission et la distribution. La prépondérance des lignes de distribution sur les lignes de transmission est très marquée dans la Saskatchewan; cette province, ne possédant pas de pouvoirs hydrauliques, n'a que 26 milles de lignes de transmission, contre 510 milles de lignes de distribution.

Machinerie des usines auxiliaires et ensemble de la machinerie.

Le tableau 10 donne, tant pour la Puissance que pour chacune des provinces, une énumération détaillée des différents types de machines fournissant l'énergie primaire, ainsi que des générateurs électriques installés dans les usines auxiliaires. On y a ajouté un relevé total de l'ensemble de la machinerie, c'est-à-dire en groupant les machines des usines principales et celles des usines auxiliaires. Etant donné que les usines auxiliaires appartiennent essentiellement aux types consommant du combustible, les chiffres concernant les turbines et roues hydrauliques ne concernent que les usines principales.

La capacité totale de l'ensemble de toutes les machines fournissant la force motrice primaire dans toutes les usines électriques canadiennes est de 2,024,918 chevaux-vapeur, dont 1,907,135 chevaux-vapeur installés dans les usines principales et 117,783 chevaux-vapeur dans les usines auxiliaires. Les machines à vapeur et turbines à vapeur en fonctionnement ont une capacité totale de 273,493 chevaux-vapeur, dont 155,933 chevaux-vapeur dans les usines principales et 117,560 chevaux-vapeur dans les usines auxiliaires. Les moteurs à gaz et à pétrole ont une capacité totale de 14,444 chevaux-vapeur, dont 14,221 dans les usines principales et 223 chevaux-vapeur dans les usines auxiliaires. Les turbines et roues hydrauliques développent 1,736,981 chevaux-vapeur, contre 170,155

chevaux-vapeur produits par toutes les machines consommant du combustible. Enfin les dynamos installées produisent 1,576,185 kilo-volt-ampères, dont 80,395 kilo-volt-ampères sont dans les usines auxiliaires

Matériel fournissant la force motrice primaire.

Aperçu sommaire sur ce matériel.—Le tableau 11 est une nomenclature, tant pour le Canada que pour les provinces, des unités des différents types fournissant la force motrice primaire, installés dans les usines principales et de leur capacité, individuelle et totale. On y voit aussi une comparaison entre la machinerie des usines commerciales et celle des usines municipales; enfin, on y relate le nombre des dynamos et des chaudières de chaque province.

Le matériel fournissant la force motrice primaire de tous types développe 1,907,135 chevaux-vapeur; il consiste en 610 turbines et roues hydrauliques, d'une capacité totale de 1,736,981 chevaux-vapeur, 198 machines à vapeur de 53,068 chevaux-vapeur, 38 turbines à vapeur de 102,865 chevaux-vapeur et 136 moteurs à gaz et à pétrole de 14,221 chevaux-vapeur. Ontario possède 822,301 chevaux-vapeur installés, soit 43.12 pour cent de l'ensemble et Québec 619,438 chevaux-vapeur installés, soit 32.48 pour cent, c'est-à-dire que plus de 75 pour cent de la machinerie fournissant l'énergie primaire de la Puissance se trouve dans ces deux provinces.

Il est à remarquer que 91.1 pour cent du total de cette machinerie dérive son énergie des forces hydrauliques, le surplus, soit 8.9 pour cent dérivant du combustible (houille, bois, gaz naturel ou artificiel, et pétrole).

Dans cinq de nos provinces, plus de 95 pour cent de cette machinerie se trouve dans les usines hydrauliques. D'autre part, la province de la Saskatchewan produit 100 pour cent de sa force motrice au moyen du combustible, soit 87.5 pour cent par la vapeur et 12.5 pour cent par le gaz et le pétrole. Mais, étant donné que cette province contient, tout spécialement dans les régions centrales et septentrionales, des forces hydrauliques susceptibles de développer plus d'un demi-million de chevaux-vapeur, au débit ordinaire des cours d'eau, il est probable que la dispersion de sa population amènera la mise en valeur d'une partie au moins de ses forces hydrauliques, pour la production de l'électricité.

Le minime pourcentage des forces hydrauliques utilisées au Nouveau-Brunswick, 36.7 pour cent, et en Nouvelle-Ecosse, 14.6 pour cent, ne représente pas la proportion réelle des ressources hydrauliques de ces provinces; mais, celles-ci ne sont pas utilisées comme elles devraient l'être, à cause de la proximité des mines de charbon. Chacune de ces provinces a créé une commission de la force motrice, ayant pour but, l'investigation de leurs forces hydrauliques et leur utilisation; à l'heure actuelle, il se manifeste une tendance très marquée dans cette direction.

Si l'on envisage la répartition des différents types de machines fournissant l'énergie primaire, on constate que sur les 982 unités de cette sorte, 636 ou 64.8 pour cent sont installées dans les usines commerciales et 346 ou 35.2 pour cent dans les usines municipales. Les opérations des usines municipales étant de moindre importance que celle des autres usines, le pourcentage des machines installées est nécessairement plus faible, ce pourcentage étant dans les usines municipales de 25.1, c'est-à-dire inférieur au pourcentage du nombre d'unités qu'elles possèdent.

Les 236 machines fonctionnant par la vapeur sont divisés presque également entre les deux groupes d'usines, soit 119 dans les commerciales et 117 dans les municipales; en d'autres termes, 43.4 pour cent des chevaux-vapeur produits par la vapeur se trouvent dans les premières et 56.6 pour cent dans les autres.

Quant aux machines à combustion interne ou moteurs à explosion, 44.1 pour cent du nombre de leurs unités, soit 33.6 pour cent de la capacité totale,

sont dans les usines commerciales, la part correspondante des usines municipales étant 55.9 pour cent et 66.4 pour cent. Le nombre des turbines et roues hydrauliques installées dans les usines commerciales, est presque exactement le triple de celui des usines municipales, leur capacité correspondant presque exactement à cette proportion.

Classification de la machinerie selon sa puissance.

Le tableau 12 présente une analyse des différents types de machines, aussi bien celles fournissant la force motrice primaire que les générateurs électriques, classifiés par groupes, au point de vue de leur capacité.

Sur les 610 turbines et roues hydrauliques, 74 d'entre elles ont une puissance totale de 1,009,900 chevaux-vapeur, soit plus de 57 pour cent du total, 47 de celles-ci étant susceptibles de développer plus de 10,000 chevaux-vapeur et moins de 15,000 chevaux-vapeur, tandis que la capacité des 27 autres atteint ou dépasse 15,000 chevaux-vapeur; 38 de ces grosses turbines se trouvent dans les usines d'Ontario, 26 dans Québec et les 10 autres dans la Colombie Britannique; enfin, 58 d'entre elles appartiennent aux usines commerciales et 16 aux usines municipales.

Le même tableau fait ressortir le champ limité de la machine à vapeur et l'adaptabilité de la turbine à vapeur à l'industrie électrique. La plus forte machine à vapeur en usage dans l'industrie électrique ne dépasse pas 2,250 chevaux-vapeur et, plus de 86 pour cent du nombre total de ces machines sont de moins de 500 chevaux-vapeur; par contre, 5 turbines à vapeur de plus de 5,000 chevaux-vapeur chacune fonctionnent sans arrêt et 5 autres d'une force égale sont installées dans les usines auxiliaires. Sur les 38 turbines à vapeur 25, ou 56.8 pour cent ont une capacité égale ou supérieure à 2,000 chevaux-vapeur.

Ce tableau démontre aussi que, quoique l'usage des moteurs soit répandu dans toutes les provinces, la Saskatchewan en possède à elle seule 62, ou 45.6 pour cent, des 136 moteurs à gaz et à pétrole installés dans les usines principales. Mais le détail le plus frappant qui s'offre à la vue de l'observateur, c'est que les dynamos à courant direct ne jouent qu'un rôle insignifiant dans les usines électriques. Sur le total de 964 dynamos, possédant toutes ensemble une puissance de 1,487,790 kilo-volt-ampères, 836 ou 86.7 pour cent, ayant une capacité de 1,474,969 kilo-volt-ampères ou 99.1 pour cent de la force totale, sont des machines à courant alternatif. Parmi ces dynamos à courant alternatif, 20.6 pour cent sont d'une force de 1,000 kilo-volt-ampères ou plus, tandis que 82 pour cent des dynamos à courant direct sont inférieurs à 200 kilowatt-heures.

Energie électrique produite.

Nous avons déjà dit qu'un petit nombre des usines n'ont pu, faute de compteurs spéciaux, donner le chiffre exact de la production de leurs dynamos.

Le tableau 13 nous renseigne sur la production électrique totale de chaque catégorie d'usines productrices, d'abord pour le Canada, puis pour chacune des provinces. Pour donner à ce tableau plus de clarté, on y a ajouté la capacité des dynamos de chacune des usines recensées ainsi que le pourcentage que représente cette capacité par rapport à la puissance totale des dynamos de même classe. En plaçant à 100 pour cent les facteurs de pouvoir et de charge, la production annuelle par kilo-volt-ampère serait de 8,760 kilowatt-heures.

Sur cette base, la plus grande utilisation de la machinerie se trouve dans les usines hydrauliques municipales de la province d'Ontario, lesquelles utilisent 1,783 kilowatt-heures, soit environ 55 pour cent du maximum de capacité des dynamos. En général, les usines hydrauliques ont utilisé leur machinerie à un plus grand degré que les usines consommant du combustible. On remarquera que dans quelque province que ce soit, les groupes d'usines utilisant moins

de 90 pour cent de la puissance totale de leurs dynamos, n'ont qu'une importance restreinte et ne peuvent affecter matériellement les totaux.

Les usines fonctionnant au moyen du combustible qui ont été recensées développaient 144,125,100 kilo watt-heures. Celles-ci possédaient 74 pour cent de la capacité totale des dynamos installées, de telle sorte qu'il y aurait lieu d'ajouter environ un tiers à ce chiffre pour atteindre la production totale. Les usines hydrauliques recensées ont accusé une production de 5,353,079,000 chevaux-vapeur. Les dites usines possédant 94 pour cent de la capacité de la machinerie installée, il est permis de supposer que la production totale s'est élevée approximativement à 5,500,000,000 de kilowatt-heures.

On se rendra compte de la valeur des forces hydrauliques du Canada si l'on considère que le coût du combustible nécessaire à la production de 5,500,000,000 de kilowatt-heures d'énergie électrique engendrées dans les usines hydrauliques, atteindrait 95 millions de dollars. Plus de 80 pour cent de cette production est sortie d'Ontario et de Québec, provinces qui tirent des Etats-Unis la presque totalité de leur combustible; par conséquent, les quatre cinquièmes de cette somme énorme seraient sortis du pays.

Consommation de combustible.

Le tableau 14 est consacré à un relevé du combustible ayant servi à la production de l'énergie électrique, tant dans les usines principales que dans les usines auxiliaires; le combustible servant au chauffage n'y est pas compris. Les usines auxiliaires, servant de réserve aux usines hydrauliques, ont consommé pour \$466,241 de combustible, soit \$431,840 dans les usines commerciales et \$34,401 dans les usines municipales.

Les chiffres de ce tableau doivent être rapprochés de ceux du tableau 10. En laissant de côté les usines auxiliaires, qui ne fonctionnent pas régulièrement les machines à vapeur et les moteurs à pétrole et à gaz de l'Alberta développent le plus grand nombre de chevaux-vapeur, néanmoins cette province pouvant se procurer à bon marché le gaz, le pétrole, le lignite et le charbon bitumineux, sa consommation ne lui a pas coûté plus de \$397,464, pour 45,198 chevaux-vapeur installés. La Saskatchewan, qui recourt exclusivement au combustible, a dû payer \$616,242 pour \$37,474 chevaux-vapeur, plus de 90 pour cent représentant l'achat de charbon canadien. Les provinces d'Ontario et de Québec, l'une et l'autre dépourvues de houille, possèdent d'immenses ressources hydrauliques; quant au Manitoba, quoiqu'il produise un peu de charbon, il possède quatre grandes usines hydro-électriques, qui produisent la presque totalité des kilowatt-heures engendrés dans la province, soit 224 millions, sur 226 millions de kilowatt-heures.

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DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY, 1920

Electric Power
CENTRAL ELECTRIC STATIONS
IN CANADA

(Prepared in collaboration with the Dominion Water Power Branch,
Department of the Interior, with the assistance of the Ontario
Hydro-Electric Power Commission, the Quebec Streams
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CENSUS OF INDUSTRY 1920

CENTRAL ELECTRIC STATIONS

Preface

The statistics in the present report on the Central Electric Station Industry of Canada have been collected and compiled by authority of the Statistics Act, 1918, (8-9 George V., Chapter 43). Under a co-operative arrangement between the Bureau and the Dominion Water Power Branch, Department of the Interior, the schedules and the report have been checked under the direction of Mr. J. T. Johnston, Assistant Director, by Mr. Alexander Roger, Engineer, of the Dominion Water Power Branch. The schedules were collected and the report compiled under the direction of Mr. G. S. Wrong, B.Sc., of the Dominion Bureau of Statistics, the Ontario Hydro-Electric Power Commission and other provincial departments and commissions assisting in the work of collection. The cordial thanks of the Bureau are tendered to the several departments co-operating as above, and to the managers of Central Electric Stations for their promptness in supplying the data.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, September 15, 1922.

NOTE ON CANADIAN WATER-POWERS

Canada is richly endowed with water-power resources. Practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within easy transmission distance ample reserves of water-power. *Over 90 per cent of the prime motive power of the central electric station industry of Canada is hydro power.*

The administration of the water resources of the Dominion is a divided federal and provincial responsibility. In Alberta, Saskatchewan, Manitoba, and the Yukon and Northwest Territories, control is vested in the Dominion Water Power Branch, Department of the Interior. Throughout the remainder of Canada, administration is carried out by the following respective provincial authorities: British Columbia, Department of Lands; Ontario, Department of Lands and Forests; Quebec, Department of Lands and Forests; Nova Scotia, Commissioner of Public Works and Mines; New Brunswick, Department of Lands and Mines; Prince Edward Island, Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission, formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. In 1920 the commission was delivering power to 222 municipalities and was operating in all fifteen power plants, developing a total of 290,729 horse-power⁽¹⁾. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In Manitoba the commission purchases power from the municipality of Winnipeg and transmits it to Portage la Prairie and other municipalities in the southern portion of the province, operates a 250 horse-power hydro-electric and a 240 horse-power fuel oil power plant at Minnedosa and a 240 horse-power fuel oil power plant at Virden. In Nova Scotia the commission has developed two hydro-power sites at St. Margaret's bay with a combined capacity of 10,820 horse-power the total output therefrom being sold in bulk to the Nova Scotia Tramways and Power Company for distribution in Halifax and vicinity and have purchased and reconstructed an 825 horse-power plant on the Mushamush river the output of which is sold in bulk for distribution in Lunenburg and Riverport. The New Brunswick Commission has completed an 11,100 horse-power hydro-electric station on the Musquash river the current being transmitted to St. John and Moncton for distribution. In addition power is purchased en bloc for transmission to Newcastle, Douglastown and other points in the north-eastern portion of the province. In the province of Quebec there is no Government commission engaged in the production or distribution of electric energy. The Quebec Streams Commission is, however, actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

⁽¹⁾These figures do not include the Cameron Falls and Chippawa-Queenston hydro-electric developments of the Commission, the former of 25,000 h.p. and the latter of an initial installation of 300,000 h.p., 180,000 h.p. of which is already installed.

The Dominion Water Power Branch, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful reanalysis and computation by the branch, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hr. power at 80 p.c. efficiency		Turbine installation h.p.
	At ordinary min. flow h.p.	At est. flow for max. dev. (dependable for 6 mos.h.p.)	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	305,315
Alberta.....	475,281	1,137,505	33,187
Saskatchewan.....	513,481	1,087,756	
Manitoba.....	3,270,491	5,769,444	104,147
Ontario.....	4,950,300	6,808,190	1,212,650
Quebec.....	6,915,244	11,640,052	1,105,385
New Brunswick.....	50,406	120,807	30,180
Nova Scotia.....	20,751	128,264	46,948
Prince Edward Island.....	3,000	5,270	1,869
Yukon and Northwest Territories.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,762,880

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. That Canada possesses 18,225,000 continuous twenty-four-hour horse-power available for exploitation, while for at least six months in the year this total rises to 32,076,000, may be regarded as a minimum statement.

The water-wheels installed throughout the Dominion total 2,762,880 horse-power. A detailed analysis of the relationship between this installed power, taking into consideration local pondage and load factors, and the corresponding available water-power, indicates that the *at present recorded available water-powers* of the Dominion will permit of a turbine installation of 41,700,000 horse-power. In other words, the present turbine installation represents only 6.6 per cent utilization of the present recorded water-power resources. In support of this statement it may be said that the detailed analyses made of the water-power resources of the provinces of New Brunswick and Nova Scotia have disclosed most advantageous reservoir and pondage facilities for regulating stream flow, and it is estimated that, allowing for the diversity factor between installed power and customers' demands, the two provinces possess respectively 200,000 and 300,000 commercial horse-power as against the lower figures given in the table.

With a water-power development of 315 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources, being surpassed on this basis by Norway alone. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

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INTRODUCTION AND SUMMARY

This report, which is the fourth annual report on the central electric station industry in Canada, presents the results of the operation of central electric stations for the year ended December 31, 1920, and data on capital, equipment, etc., as at January 1, 1921.

A central electric station, for census purposes, has been defined as a station selling electric energy. It includes (1) stations generating electricity and selling direct to consumers, (2) stations generating electricity and selling to distributing companies, (3) stations buying current and reselling it to consumers, and all combinations of these.

In some cases stations are engaged primarily in other industries, such as manufacturing pulp or paper, mining, etc., and sell current to their employees, to local municipalities or to private consumers. In the case of these stations a division of capital, expenses and equipment is made, allocating as closely as possible to the central electric station industry, the data relating to that phase of the operations.

The stations are divided into two general classes, (1) commercial, or privately operated stations, and (2) municipal, or those operated by provincial commissions, municipalities and public institutions. These two classes are subdivided into (1) non-generating, those which buy all the electric energy they resell, and (2) generating, those which generate all or a portion of the current sold. The generating stations are again divided into (1) hydraulic, those generating electricity by water-power, and (2) fuel, those generating electricity by steam turbine and reciprocating engines and internal combustion engines.

Thirty-six of the hydraulic stations also had fuel equipment to supplement their hydraulic installations. This equipment in some cases was purely standby or emergency equipment for use in periods of water shortage, but in the majority of cases it was used to take care of peak loads during certain periods of the day or year; in several stations it was operated continuously throughout the year.

The central electric station industry is undoubtedly one of the most important in Canada. The capital invested in the industry, while less than that invested in railways, was much greater than that invested in any of the other basic industries as is indicated by the following table.—

Industries	Capital
	\$
Steam railways.....	2,612,000,000
Central electric stations.....	448,000,000
Pulp and paper mills.....	348,000,000
Lumber mills.....	235,000,000
Blast furnaces and steel mills.....	120,000,000
Agricultural implements.....	111,000,000
Meat packing plants.....	84,000,000
Flour mills.....	68,000,000

The importance of the industry to Canada is possibly greater at the present time (September, 1922) than ever before, As a consequence of a strike which has been in force since April 1st in the union coal mines of the United States, coal reserves are greatly depleted, and Canada, especially Ontario

and Quebec, will undoubtedly suffer during the coming winter for lack of fuel. The situation would be considerably worse if it were not for the extensive development of water power by the central electric stations. For the year under discussion, the hydraulic stations in Ontario generated over *three billion* kilowatt hours, and in Quebec, almost *two billion* kilowatt hours, while for Canada as a whole the current thus generated was almost *five and three quarter billions*. Since that time a number of large installations have been completed and work is being rushed on a number of others to meet the heavy demands.

During the year 1920 there were consolidations of stations, changes from commercial to municipal, etc., and a few stations, principally small ones in the west, discontinued operations. The total change, however, was not great in this respect, the net increase in stations being fourteen. The growth of the industry is best indicated by the additions to capital, the increased revenues and the greater output of electricity.

Capital increased \$31,761,632, or 7 per cent. Over half of this increase was in the capital of non-generating stations, which was augmented by \$16,778,165, or about 33 per cent, while the generating stations showed an increase of \$14,983,467, or 4 per cent. The total primary power in all stations increased from 2,024,918 horse power to 2,033,616 horse-power. Although this was a lower rate of increase than that of capital, it is explained in part by the more or less general practice of making provision for future additional power units when installing the initial equipment, by higher prices, etc. Revenues increased \$7,851,668, or 13.5 per cent, the increase for commercial stations being \$4,351,880 and for municipal stations \$3,499,788. Operating expenses increased \$10,759,023, or over 31 per cent, as a result of the increased cost of fuel, materials and labour. Miscellaneous expenses include the cost of power bought for resale, which amounted to \$12,268,978, being \$2,349,076, or 24 per cent above the cost for 1919. The number of employees increased 10.7 per cent, the greatest increase being in municipal non-generating stations. The increase in the total pole line mileage was entirely in transmission systems. Some duplication of distribution pole line mileage was eliminated where commercial and municipal systems, operating in the same municipality, were consolidated. This was the main cause of a slight decrease in the distribution pole-line mileage.

The decrease in primary and secondary power in mainplants as shown in table 1, was due to the transference of the equipment of a large station in Ontario from main to auxiliary plant. The station had steam turbines aggregating 24,100 horse-power and dynamos with 18,000 K.V.A. capacity, but since it purchased its entire supply of current during the year, the equipment was strictly auxiliary and consequently the station was transferred from the fuel generating class to the non-generating class with auxiliary equipment. The increase in total primary power was entirely in the hydraulic installations, which increased 17,149 horse power. The decrease in total secondary power was entirely due to rerating of dynamos by the stations reporting; although the figures show a reduction in capacity, there was an increase of 21 units and an actual increase in the true rating. With each year more accuracy is being secured and records are being kept by both the stations and the Bureau. In this way data are being checked and errors rectified, making the statistics as accurate as possible.

Commercial and municipal stations increased their output 265,000,000 and 132,000,000 kilowatt hours respectively, the total current generated showing an increase of about seven per cent and aggregating almost six billion kilowatt hours. This does not include current generated by stations not equipped with the necessary meters to measure the output. The current generated by such stations, although they had six per cent of the total dynamo capacity, would not amount to over one or two per cent of the total current reported,

as they are, in the main, small stations operating only a few hours each day for lighting purposes. While the municipal stations were more numerous than the commercial stations, the majority of them were non-generating and consequently the capital invested was considerably less than that invested in the commercial stations, being only 30.6 per cent of the total. Municipal stations had slightly over twenty five per cent of the primary power equipment and also of the secondary power equipment and developed 24.4 per cent of the total output of all stations. In commercial stations 96.8 per cent of the primary power of main plant equipment was hydraulic, whereas in 1919 the ratio was 94.9 per cent, while in municipal stations the ratio was 79.7 per cent as against 79.6 per cent in 1919.

Of the total primary power capacity of main plant equipment, over 92 per cent was hydraulic, and of the total of all primary power equipment, including the auxiliary equipment in hydraulic stations, over 86 per cent was hydraulic. The preponderance of water-power over other forms of power in this industry will undoubtedly increase as the demand for power grows. Over sixteen per cent of all dynamos were direct current, but they were small machines having an average capacity of 72.1 kilowatts and an aggregate capacity of less than one per cent of the total.

Stations

Table 2 gives an exhaustive analysis of the central electric stations and shows Ontario and Quebec to have 62 per cent of the total number of stations, Ontario alone having 44 per cent. The large number of municipal stations in Ontario was due to the activities of the Ontario Hydro-Electric Power Commission, which controlled 208 non-generating and 15 generating stations. The number of stations does not necessarily denote the importance of any class, and if considered separately is apt to be misleading. The table should be analysed in conjunction with other tables, especially tables Nos. 3-4 and 13. For example, Manitoba had twenty fuel and only three hydraulic generating stations, but the three hydraulic stations developed almost one hundred times as much electric energy as the twenty fuel stations and represented twenty-eight times as much capital investment. While about one-fifth of the generating stations were equipped with direct current dynamos, both the stations and machines were small, the primary power in most cases being internal combustion engines, especially in Saskatchewan, where over half of the internal combustion engines were located and all of the primary power was fuel.

Capital

Table 3.—The capital reported represents the total capital employed in the industry, including the value of all hydraulic installations, lands, buildings, equipment, transmission and distribution lines, substations, supplies on hand, cash, trading accounts, etc., as at the end of the year. As previously explained, where the developing of electricity for sale was combined with other industries such as mining, manufacturing, gas works, etc., the capital pertaining to the central electric station industry has been carefully allocated to the industry on the best basis possible in each case.

Total capital showed an increase over the previous year of over \$31,000,000, the greatest increases being over \$19,000,000 in Quebec and over \$11,000,000 in Ontario.

Revenue

Table 4.—Revenue from lighting and power showed an increase of \$7,851,668, or 13 per cent, the increase in revenues of the non-generating stations being \$5,229,592 and of the generating stations \$2,622,076. Almost

60 per cent of the total revenue was earned by hydraulic stations, with Ontario, Quebec and British Columbia stations leading in this order, the revenues of fuel stations being 13.5 per cent and of non-generating stations 26.5 per cent of the total.

The averages of revenue per unit of capacity of generating stations, shown at the foot of the table, are affected somewhat by including in the revenue of generating stations, the revenue derived from the resale of power purchased by generating stations from other generating stations. It is not possible to segregate this revenue but the total cost of power so purchased was \$4,252,610, or about 9 per cent of the total revenue of all generating stations. These averages are the resultants of the utilization of the equipment and the rates charged and by themselves have little meaning, but when used in conjunction with table 13 they are quite significant and give some very interesting comparisons.

The averages of revenue of generating stations per kilowatt hour are affected by the above mentioned duplication, but the revenues of stations not reporting their output have been eliminated. These averages will therefore very closely represent the revenue received by generating stations per kilowatt hour generated.

Disregarding these qualifying factors, the average revenue per kilowatt hour of generating stations clearly indicates that cheap power is hydraulic power with an industrial market. As such power is continuous, rates can be lowered as the load approaches a twenty-four-hour load. Ontario with a large number of industries supplied with hydro-electric power shows much the lowest rate, viz: .526 cent; this is lower than the cost of fuel alone in the fuel stations. Quebec with its large industrial centres and large hydraulic developments was next with an average rate of .805 cent, and British Columbia third. The conditions in the Yukon are so different from those in the rest of Canada, that comparisons would not be justified; the power there is used mainly in connection with mining operations.

Free Service

Table 5. Free service is the value, estimated at current rates, of electricity supplied for lighting public buildings, streets, etc., for which no direct recompense is received. It will be noted that the most of this was given by municipal stations, which means that the various municipal lighting departments were not credited with the value of the electricity used for the above purposes and the amounts could very properly be added to the revenues of those stations. With commercial stations the situation is somewhat different, as in some cases they receive payment indirectly, such as exemption from taxes and free sites.

Expenses

Table 6. Expenses showed an increase over 1919 of \$10,759,023, or 31 per cent. Miscellaneous expenses include rentals, insurance, taxes, repairs, advertising and cost of power purchased. This last item aggregated \$12,268,978 for Canada and represents the total amount paid for power by distributing stations to other stations, in most cases generating stations, but in a few cases to non-generating stations. It was not only the non-generating class of station that purchased power from other stations, but several generating stations also bought power for resale. The total cost of power to generating stations amounted to \$4,252,610, while non-generating stations paid \$8,016,368, the bulk of this being paid by Ontario stations, where generating stations paid \$2,099,826 and non-generating stations paid \$6,221,157.

Employees

Table 7.—The total number of employees divided between general officers, superintendents, clerks and other salaried employees, and wage-earners are shown in this table, as is also the total number of employees by each class of stations. An accurate record of the employees in this industry is difficult to obtain on account of many of the smaller stations employing men on part time throughout the year.

Subscribers

Table 8.—This table is a new feature of the report and includes all subscribers or parties buying electric energy. Commercial subscribers include all stores, hotels, shops, factories, etc., while private subscribers include private residences. On the basis of the estimated population of Canada in 1920, there was one private subscriber to every 11.3 persons, which means that about every third family used electricity for lighting or heating. The averages at the foot of the table shows the number of private subscribers or householders using electricity per 100 of population.

British Columbia showed much the highest ratio with Ontario, Quebec, Manitoba, and Alberta following in this order. The absence of water power developments in Saskatchewan was undoubtedly the reason why that province was behind the other Prairie Provinces in this respect.

Pole Line Mileage

Table 9.—This table presents the data on the pole and tower line mileage used for transmission and distribution of electricity. The miles of cables and wires would be several times greater than this, as much of the pole line carries two or more circuits. Where large water-powers are developed and deliver current at considerable distances to commercial centres for manufacturing and street railways operation, the pole line mileage is relatively heavy, but where the plants are fuel plants or the electricity is used mainly for lighting purposes, the plants are generally local stations with little transmission mileage. For example, in Quebec where the transmission mileage was heavier than the distribution mileage, only 34 per cent of the revenue was from lighting, while in Saskatchewan where the transmission mileage was small, over 71 per cent of the revenue was from lighting.

Equipment

Table 10.—Included in this table is all equipment in the central electric station industry, whether used continuously or held for emergency purposes. In plants where the equipment was used in connection with manufacturing or other industries, and only a portion was used to develop current for sale, the equipment was allocated to the central electric station operations, as closely as possible, on the basis of the ratio of current sold to current generated or on each other basis as was equitable.

Auxiliary Equipment

Table 11.—Auxiliary equipment, as previously explained, includes all steam, oil, or gas engines in hydraulic stations, although in one or two cases such equipment had as great a capacity as the hydraulic equipment and was used continuously throughout the year. It also includes the dynamos connected with such auxiliary engines. There were two stations, one in Ontario and one in Quebec, which purchased all the current they distributed and also had auxiliary equipment held in reserve. The increase in the auxiliary equipment over 1919 was due to the transference of a station in Ontario from the generating fuel class with main plant equipment to the non-generating class with auxiliary equipment.

Main Plant Equipment

Table 12.—This table excludes the auxiliary equipment in the hydraulic stations but covers all other equipment of the central electric stations. The decrease from 1919 is attributed to the transfer mentioned above under table 1 and 10.

Although the water-wheels were only 59 per cent of the total number of primary power units and were installed in only 51 per cent of the generating stations they were rated at over 92 per cent of the total capacity of all the primary equipment. In Ontario and Quebec this ratio was about 99 per cent, in Alberta and the Maritime Provinces the ratio was much smaller, while in Saskatchewan there was no electricity generated by water-power. The majority of the prime movers in Saskatchewan were internal combustion engines, but they were small and had a smaller aggregate capacity than the steam turbines and engines. This was peculiar to Saskatchewan, although Alberta and Manitoba used internal combustion engines to some extent. Over 95 per cent of the total primary power in municipal stations was installed in the municipal stations in Ontario and the three Prairie Provinces and, although only 16 per cent of these stations in Ontario were generating stations, they contained over 65 per cent of the total capacity of the municipal generating stations in Canada.

Main Plant Equipment Classified

Table 13.—The equipment of main plants or all equipment except the auxiliary equipment of hydraulic stations is classified in this table according to ratings and very clearly shows the locations of each class of equipment. The 74 large water-wheels which were located in Ontario, Quebec and British Columbia aggregated over 53 per cent of the total capacity of all primary power machines. These do not, however, include the large turbines of the Ontario Hydro-Electric Power Commission at Queenston which were not operating during 1920. These three provinces had also the majority of the large capacity dynamos.

This table, besides making a division of each class of equipment by provinces, makes a division of the total between commercial and municipal stations and shows that the large capacity machines were installed in commercial stations.

Electric Energy Generated

Table 14.—As previously explained, this table shows the total electric energy generated by stations equipped with the necessary meters to measure the output. The capacities of these stations aggregated 94 per cent of the total of all stations and while stations having six per cent of the total dynamo capacity did not report, owing to lack of meters, they were small stations operating in most instances primarily to furnish electricity for lighting purposes. Their equipment would consequently be used only in the evenings and their output would be small compared to their capacities. Their total output would undoubtedly not be over one or two per cent of that reported and the exclusion of this current has little effect on the totals.

The total production of 5,894,867,000 kilowatt hours gives an average of about 680 kilowatt hours per capita for Canada generated by central electric stations; in the United States the corresponding figure was 412 kilowatt hours thus about 1.65 times as much electric energy per capita was generated by central electric stations in Canada as in the United States. The comparison of hydraulically developed electricity per capita was much more favourable to Canada, being 660 kilowatt hours, as against 153 kilowatt hours per capita in the United States. In Canada 97.2 per cent of the total electricity produced by central stations was generated by water-power and only 2.8 per cent by fuel, while in the United States only 37.1 per cent was generated by water-power and 62.9 per cent by fuel stations.

The Ontario Hydro-Electric Power Commission took over three commercial stations during 1920, which accounts for the large differences from 1919 in data for commercial fuel stations in Ontario. There were no large differences in the other provinces but the totals indicate a steady growth.

The average kilowatt hours per K.V.A. capacity show some very interesting comparisons. In Ontario hydraulic stations show an output of 4,714 kilowatt hours per year per K.V.A. capacity. With a power factor of 100 this means that the equipment was utilized throughout the year at 54 per cent of its maximum capacity, or using a power factor of 80 per cent, at over two-thirds of maximum capacity. Comparing this figure with the corresponding figure for other classes, an exceedingly high average is indicated.

In the provinces where electricity was used principally for lighting purposes the average output per unit capacity was low, owing to the short daily period of peak load.

The full economic significance of the extensive development of water-powers in this industry was not only that a vast amount of relatively cheap power was produced and a great saving of fuel was effected, but that this cheap power was a great stimulus to other industries and in fact made the profitable operation of some industries possible. It also effected a great saving in fuel and as the bulk of water-powers developed were in Ontario and Quebec, the saving was in fuel which would have been imported from the United States. To develop by steam the 4,967,674,000 kilowatt hours, hydraulically developed in these two provinces alone, would have required 11,000,000 to 15,000,000 tons of coal.

Fuel

Table 15.—This table includes all fuel consumed by the fuel stations and by the boilers of the auxiliary equipment of hydraulic stations to generate electric energy, but does not include fuel used for heating purposes. The cost of fuel used by the auxiliary equipment in hydraulic stations aggregated \$583,708, made up as follows: Alberta, \$40,000; British Columbia, \$41,141; Manitoba, \$175,034; New Brunswick, \$9,695; Nova Scotia, \$3,854; Ontario, \$298,807; Prince Edward Island, \$245; Quebec, \$14,932. The cost of fuel consumed by straight fuel stations for Canada was \$2,606,508, divided as follows: Alberta, \$494,158; British Columbia, \$114,280; Manitoba, \$129,734; New Brunswick, \$320,625; Nova Scotia, \$544,952; Ontario, \$102,031; Prince Edward Island, \$27,160; Quebec, \$109,358; Saskatchewan, \$759,091 and Yukon, \$5,119. Fuel stations reported a total of 164,563,000 kilowatt hours generated at a cost for fuel of \$2,406,861. This gives an average for fuel for Canada of 1.463 cents per kilowatt hour.

Alberta with its coal mines and natural gas showed the lowest average, .865 cent. British Columbia was second with 1.230 cent and Saskatchewan, where all the stations were fuel stations, was third with 1.463 cent. The averages of the other provinces were as follows: Nova Scotia, 1.664 cent; New Brunswick, 1.892 cent; Prince Edward Island, 2.622 cents; Quebec, 3.279 cents; Manitoba, 4.647 cents; Ontario, 5.248 cents; and Yukon, 10.892 cents. The provinces importing their fuel, Ontario, Manitoba and Quebec, showed the highest average fuel cost per kilowatt hour, but these provinces generated almost one hundred per cent of their total outputs by water-power and, as shown by the average revenues per kilowatt hour in table 4, were able to sell their output much below the other provinces, except British Columbia. The stations in British Columbia also generated by water-power close to one hundred per cent of the total output of that province.

The various tables and averages contained therein clearly show the great superiority of water-power over steam for central electric stations in Canada, specially for stations with large capacities.

Table 1—Summary of Principal Data 1920-1919

	Total		Commercial — Commerciales		Municipal — Municipales	
	1920	1919	1920	1919	1920	1919
	1	2	3	4	5	6
Total Number of Stations	819	805	379	358	440	447
No. of Hydraulics Stations.....	258	272	193	199	65	73
No. of Fuel Stations.....	248	221	128	107	120	114
No. of Non-Generating Stations.....	313	312	58	52	255	260
Total Capital Invested	\$118,273,642	\$116,512,010	\$311,190,342	\$287,558,443	\$137,113,300	\$128,953,567
Lands, Buildings and Fixtures.....	162,582,537	157,375,358	136,956,995	136,789,680	25,625,542	20,585,678
Equipment.....	148,821,478	123,762,689	79,576,463	78,260,451	69,245,015	45,502,238
Distribution and Transmission Systems.....	80,087,667	90,478,009	48,081,243	40,322,873	32,006,424	50,155,136
Materials on Hands and Miscellaneous Supplies.....	9,630,092	6,702,219	4,601,673	3,863,015	5,028,419	2,839,204
Cash, Trading & Operating Accounts, etc.	47,151,868	38,193,735	41,943,968	28,322,424	5,207,900	9,871,311
Total Revenue from Sale of Power	65,705,060	57,853,392	39,904,747	35,552,867	25,800,313	22,300,525
For Lighting Purposes.....	25,382,310	20,210,091	13,313,231	10,363,214	12,069,079	9,846,877
For All other purposes.....	40,322,750	37,643,301	26,591,516	25,189,653	13,731,234	12,453,648
Free Service (Value at Commercial Rates)	362,199	267,441	40,513	37,514	321,686	229,927
Total Operating Expenses	45,100,946	34,341,923	24,692,105	19,201,892	20,408,841	15,140,031
Salaries and Wages.....	14,626,709	11,487,132	7,311,295	5,989,049	7,315,414	5,498,083
Fuel.....	3,190,216	2,627,352	1,583,388	1,463,270	1,006,828	1,164,169
Miscellaneous.....	27,284,021	20,227,352	15,797,422	11,749,573	11,486,599	8,477,779
Total number of Employees	10,693	9,656	5,431	5,168	5,262	4,488
Total Mileage of Pole Lines	20,879	20,466	10,721	10,784	10,158	9,683
For Transmission.....	7,850	7,419	4,499	4,038	3,351	3,381
For Distribution.....	13,029	13,047	6,222	6,746	6,807	6,301
Total Kilowatt Hours Generated (thousands)	5,894,867	5,497,204	4,456,428	4,191,223	1,438,439	1,305,981
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1920	1919	1920	1919	1920	1919
	1	2	3	4	5	6
Total Primary Power.....*H.P.	1,897,024	1,907,135	1,415,488	1,428,918	481,536	406,911
Water Wheels and Turbines..... No.	594	610	454	457	140	154
H.P.	1,754,130	1,736,981	1,370,496	1,356,379	383,634	336,536
Steam Reciprocating Engines..... No.	196	198	102	104	94	97
H.P.	49,430	53,068	25,572	27,928	23,858	22,750
Steam Turbines..... No.	37	38	12	15	25	17
H.P.	80,750	102,865	16,039	39,830	64,711	39,138
Gas and Oil Engines..... No.	179	136	95	60	84	68
H.P.	12,714	14,221	3,381	4,781	9,333	8,486
Total Secondary Power.....K.V.A.	1,451,829	1,487,790	1,078,611	1,112,494	373,218	315,284
Dynamos A. C..... No.	817	826	506	526	311	201
K.V.A.	1,439,937	1,474,969	1,070,760	1,104,462	369,177	312,639
Dynamos, D.C..... No.	165	128	131	98	34	40
K.V.A.	11,892	12,821	7,851	8,032	4,041	2,645

* For explanation of decrease, see introduction and summary.

Tableau 1—Résumé comparatif des données principales, 1920-1919

Generating Productrices		Non-generating Non productrices		Per Cent of Column 1 Pour cent. de la 1ère col.						
1920	1919	1920	1919	Com- mer- ciales 1920	Mu- ni- ci- pales 1920	Gen- erat. Prod. 1920	Non Gen. Non prod. 1920			
7	8	9	10	11	12	13	14			
506	493	313	312	46.3	53.7	61.8	38.2	Nombre total des usines		
258	272	—	—	74.8	25.2	100.0	—	Nombre des usines hydrauliques		
248	221	—	—	51.6	48.4	100.0	—	Nombre des usines à combustible		
—	—	313	312	18.5	81.5	—	100.0	Nombre des usines non productrices		
\$ 350,372,831	\$ 365,389,364	\$ 7,900,811	\$ 51,122,646	69.4	30.6	81.9	15.1	Total des capitaux investis		
152,878,448	151,680,302	9,704,089	5,695,056	84.2	15.8	94.0	6.0	Terrains, bâtiments et installations		
121,248,398	119,563,591	27,573,080	4,199,098	53.5	46.5	81.5	18.5	Machinerie		
59,847,380	60,231,076	20,240,287	30,246,933	60.0	40.0	74.7	25.3	Réseaux de distribution et de transm.		
4,615,346	3,875,503	5,014,746	2,826,716	47.8	52.2	47.9	52.1	Matières premières et approvisionn.		
41,783,259	30,038,892	5,368,609	8,154,843	89.0	11.0	88.6	11.4	Fonds de roulement, caisse, etc.		
48,042,642	45,420,566	17,662,418	12,432,826	60.7	39.3	73.1	26.9	Total des rec. prod. par l'élec. vendue		
15,743,155	13,057,592	9,639,155	7,152,499	52.5	47.5	62.0	38.0	Pour l'éclairage		
32,299,487	32,362,974	8,023,263	5,280,327	65.9	34.1	80.1	19.9	Pour tous autres usages		
306,508	202,221	55,691	65,220	11.2	88.8	84.6	15.4	Serv. gratuit (val. au prix du commerce)		
29,684,712	24,281,570	15,416,234	10,060,353	54.7	45.3	65.8	34.2	Total des dépenses d'exploitation		
9,202,207	7,768,464	5,424,502	3,718,668	50.0	50.0	62.9	37.1	Traitements, appoint. et salaires		
3,190,216	2,627,439	—	—	49.6	50.4	100.0	00.0	Combustible		
17,292,289	13,885,667	9,991,732	6,341,685	57.9	42.1	63.4	36.6	Dépenses diverses		
6,677	6,604	4,016	3,052	50.8	49.2	62.4	37.6	Nombre total du personnel		
13,651	14,111	7,228	6,355	51.3	48.7	65.4	34.6	Long. en milles des lignes sur poteaux		
6,794	6,632	1,056	787	57.3	42.7	86.5	13.5	De transmission		
6,857	7,479	6,172	5,568	47.8	52.2	52.6	47.4	De distribution		
5,894,867	5,497,204	—	—	75.6	24.4	100.0	—	Total des kilowatt-heures produits (milliers)		
Etat de la machinerie (à l'exclusion de celle des usines auxiliaires)										
Per Cent of Columns 1 & 2 Pourc. des col. 1 et 2				Per Cent of Columns 3, 4, 5, & 6 Pourc. des col. 3, 4, 5 et 6.				Total Power Equipment in Auxiliary Plants		
Commercial		Municipal		Commercial		Municipal		Machines des usines auxiliaires		
1920	1919	1920	1919	1920	1919	1920	1919	1920	1919	
7	8	9	10	11	12	13	14	15	16	
74.6	74.9	25.4	25.1	100.0	100.0	100.0	100.0	136,592	117,783	Total, force motrice primaire, H.P.
76.4	74.9	23.6	25.1	—	—	—	—	—	—	Turbines et roues hydrauliques nomb
78.1	78.1	21.9	21.9	96.8	94.9	79.7	79.6	—	—	c.-v.
52.0	52.5	48.0	47.5	—	—	—	—	34	38	Machines à vapeur..... nomb.
51.7	52.6	48.3	47.4	1.8	2.0	4.9	5.3	12,771	15,060	c.-v.
32.4	39.5	67.6	60.5	—	—	—	—	26	23	Turbines à vapeur..... nomb.
19.8	38.7	80.2	61.3	1.1	2.8	13.4	13.2	123,600	102,500	c.-v.
53.1	44.1	46.9	55.9	—	—	—	—	3	3	Moteur à gaz et à pétrole..... nomb
26.6	33.6	73.4	66.4	0.3	0.3	2.0	2.0	221	223	c.-v.
Per cent of secondary Power Col. 3, 4, 5 & 6										
74.3	74.8	25.7	25.2	100.0	100.0	100.0	100.0	106,462	88,395	Total, force motrice secondaire k.v.a....
61.9	62.9	38.1	37.1	—	—	—	—	47	42	Dynamos, C.A..... nomb
74.4	74.9	25.6	25.1	99.3	99.1	98.9	98.7	106,462	88,370	k.v.a.
79.9	76.6	20.1	23.4	—	—	—	—	—	1	Dynamos, C.A..... Nom.
66.0	62.6	34.0	37.4	0.7	0.9	1.1	1.3	—	25	k.v.a.

* Pour l'explication de la diminution, voir introduction et résumé.

CENSUS OF INDUSTRY

Table 2—Stations, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
	1	2	3	4	5	6
Total Number of Stations	819	56	58	25	27	45
Per cent of Total for Canada.....	100	6.8	7.1	3.4	3.3	5.5
Commercial Stations	379	31	35	9	18	26
Non Generating.....	58	4	4	1	2	4
Generating.....	321	27	31	8	16	22
Hydraulic.....	193	3	22	2	6	7
Fuel.....	128	24	9	6	10	15
Municipal Stations	440	25	23	19	9	19
Non Generating.....	255	3	4	4	2	3
Generating.....	185	22	19	15	7	16
Hydraulic.....	65	—	8	1	2	7
Fuel.....	120	22	11	14	5	9
Total Number of Non-Generating Stations	313	7	8	5	4	7
Total Number of Generating Stations	506	49	50	23	23	38
Hydraulic Stations.....	258	3	30	3	8	14
Fuel Stations.....	248	46	20	20	15	24
With Water Wheels and Turbines only.....	222	2	24	1	7	12
With Water Wheels and Turbines and Fuel Auxiliary Equipment.....	36	1	6	2	1	2
With Steam Engines only.....	110	29	13	10	8	17
With Steam Turbines only.....	6	—	—	—	1	1
With Gas or Oil Engines only.....	113	10	7	10	4	2
With both Steam Engines and Turbines.....	11	3	—	—	1	3
With both Steam and Gas or Oil Engines.....	7	3	—	—	1	1
With both Steam Turbines and Gas or Oil Engines.....	1	1	—	—	—	—
With Alternating Current Dynamos only.....	397	36	45	14	17	33
With Direct Current Dynamos only.....	101	11	5	9	5	4
With both Alternating and Direct Current Dynamos.....	8	2	—	—	1	1

Table 3—Capital, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
	1	2	3	4	5	6
Total Capital Invested	448,273,642	12,752,477	44,507,332	18,472,471	4,455,293	5,870,668
Per cent of Total for Canada.....	100	2.84	9.93	4.12	.99	1.31
In Lands, Buildings and Fixtures.....	162,582,537	4,284,740	20,010,659	6,377,757	1,787,059	1,346,992
Equipment.....	148,821,478	4,906,811	9,190,704	3,545,766	1,132,685	2,418,416
Distribution and Transmission Lines.....	80,087,667	3,095,476	12,053,506	7,458,216	930,395	1,843,627
Materials and Supplies.....	9,630,092	175,523	1,113,564	588,966	198,585	101,569
Cash, Trading Accounts, etc.....	47,151,868	289,927	2,138,899	501,766	406,569	160,064
Total Capital Invested in Commercial Stations	311,160,342	6,122,872	41,890,954	7,023,108	3,909,001	4,954,210
Non Generating.....	23,232,512	65,615	6,330,114	200,605	9,705	262,785
Generating.....	287,927,830	6,057,257	35,560,840	6,822,503	3,899,296	4,691,425
Hydraulic.....	277,024,963	5,343,937	35,436,045	6,782,132	1,307,537	4,202,540
Fuel.....	10,902,867	713,320	124,795	40,371	2,591,759	4,270,885
Total Capital Invested in Municipal Stations	137,113,300	6,629,605	2,616,378	11,449,363	546,292	916,453
Non Generating.....	44,668,299	15,010	265,120	111,175	30,300	15,000
Generating.....	92,445,001	6,614,595	2,351,258	11,338,188	515,992	901,458
Hydraulic.....	75,485,747	—	1,480,023	10,755,587	178,146	391,553
Fuel.....	16,959,254	6,614,595	871,235	582,601	337,846	509,905
Total Capital Invested in Non-Generating Stations	67,900,811	80,625	6,595,234	311,780	40,905	277,785
Total Capital Invested in Generating Stations	380,372,831	12,671,852	37,912,098	18,160,691	4,415,288	5,592,883
Hydraulic.....	352,510,710	5,343,937	36,916,068	17,537,719	1,485,683	812,093
Fuel.....	27,862,121	7,327,915	996,030	622,972	2,929,605	4,780,790
Average per H.P. of Primary Power	236	161	208	256	217	236
Average per H.P. including Auxiliary Equipment	220	156	185	212	215	234
Average per K.V.A. of Dynamo Capacity ..	309	210	318	329	301	324
Average per K.V.A. including Auxiliary Equipment	288	203	278	281	301	322

Tableau 2—Usines, 1920

Ontario	Prince Edward Is. — Ile du Pr- Edouard	Quebec	Saskat- chewan	Yukon	
7	8	9	10	11	
360	11	147	83	4	Nombre total des usines.
44.0	1.3	18.0	10.1	0.5	Pourcentage dans chaque province.
98	10	108	40	4	Usines commerciales.
15	1	26	—	1	Non productrices.
83	9	82	40	3	Productrices.
71	7	74	—	1	Hydrauliques.
12	2	8	40	2	A combustible.
262	1	39	43	—	Usines municipales.
219	—	19	1	—	Non productrices.
43	1	20	42	—	Productrices.
33	—	14	—	—	Hydrauliques.
10	1	6	42	—	A combustible.
34	1	45	1	1	Nombre total des usines non productrices.
126	10	102	82	3	Nombre total des usines productrices
104	7	88	—	1	Hydrauliques
22	3	14	82	2	A combustible.
92	6	77	—	1	avec roues et turbines hydrauliques seulement
12	1	11	—	—	avec roues et turbines hydrauliques, plus usines auxiliaires
15	—	6	11	1	avec machines à vapeur seulement
—	—	—	3	1	avec turbines à vapeur seulement
7	1	7	65	—	avec moteurs à gaz ou à pétrole seulement
—	—	1	3	—	avec machines et turbines à vapeur à la fois
—	2	—	—	—	avec machines à vapeur, à gaz et à pétrole
—	—	—	—	—	avec turbines à vapeur et moteurs à gaz et à pétrol
111	8	89	42	2	avec dynamos à courant alternatif seulement.
15	2	10	39	1	avec dynamos à courant direct seulement.
—	—	3	1	—	avec dynamos à courant alternatif et direct.

Tableau 3—Capitaux, 1920

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
7	8	9	10	11	
203,982,142	406,033	149,366,467	7,086,642	1,374,117	Total des capitaux investis
45.51	.09	33.32	1.58	.31	Pourcentage dans chaque province
57,795,814	39,800	69,433,622	856,925	649,169	Terrains, bâtiments et installations
81,874,433	222,103	41,639,990	3,591,956	298,614	Machinerie
37,380,197	91,395	14,822,194	2,312,987	100,574	Réseaux de transmission et de distribution
5,039,882	20,677	2,172,703	175,848	42,775	Matières premières et approvisionnements
21,891,816	32,058	21,297,958	149,826	282,985	Fonds de roulement, caisse, etc.
100,421,330	365,731	144,678,952	420,067	1,374,117	Total des capitaux absorbés par les usines commerciales
10,589,246	5,000	5,553,115	—	216,327	Non productrices
89,832,084	360,731	139,125,837	420,067	1,157,790	Productrices
89,689,794	71,477	136,849,907	—	1,123,594	Hydrauliques
142,290	289,254	2,275,930	420,067	34,196	A combustible
103,560,812	40,302	4,687,515	6,666,575	—	Total des capitaux absorbés par les usines municipales
43,525,818	—	669,232	36,644	—	Non productrices
60,034,904	40,302	4,018,285	6,629,931	—	Productrices
59,814,060	—	2,866,378	—	—	Hydrauliques
220,934	40,302	1,151,905	6,629,931	—	A combustible
54,115,064	5,000	6,222,347	36,644	216,327	Total des capitaux dans les usines non productrices
149,867,078	401,033	143,144,120	7,049,998	1,157,790	Total des capitaux dans les usines produc- trices
149,503,854	71,477	139,716,285	—	1,123,594	Hydrauliques
363,224	329,556	3,427,835	7,049,998	34,196	A combustible
265	230	236	169	134	Moyenne par h.-p. de la machinerie d'énergie primaire
237	229	225	169	134	Moyenne par h.-p. y compris machinerie auxiliaire
321	270	310	194	222	Moyenne par k.v.a. de la capacité des dynamos
297	270	295	194	222	Moyenne par k.v.a. y compris machinerie auxiliaire

Table 4—Revenue, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Revenue from Sale of Power.....	65,705,060	2,653,537	6,743,614	2,715,725	1,107,467	1,903,465
Per Cent of Total for Canada.....	100	4.04	10.26	4.13	1.69	2.90
For Lighting Purposes.....	25,382,310	1,797,576	2,888,803	1,818,810	764,782	1,396,694
For All Other Purposes.....	40,322,750	855,961	3,854,811	896,915	342,685	506,771
Revenue of Commercial Stations.....	39,904,747	680,838	6,023,852	1,034,499	989,387	1,635,944
Non Generating.....	6,300,751	8,360	2,122,210	40,304	5,174	91,100
Generating.....	33,603,996	672,478	3,901,642	994,195	984,213	1,544,844
Hydraulic.....	29,719,750	424,453	3,815,834	975,705	173,808	87,546
Fuel.....	3,884,246	248,025	85,808	18,490	810,405	1,457,298
Revenue of Municipal Stations.....	25,800,313	1,972,699	719,762	1,681,226	118,080	267,521
Non Generating.....	11,261,667	19,332	115,099	43,167	10,680	7,741
Generating.....	14,438,646	1,953,367	604,663	1,638,059	107,400	259,780
Hydraulic.....	9,451,853	—	354,425	1,371,429	21,773	62,990
Fuel.....	4,986,793	1,953,367	250,238	266,630	85,627	196,790
Revenue of Non Generating Stations.....	17,662,418	27,692	2,237,309	83,471	15,854	98,841
Revenue of Generating Stations.....	48,042,642	2,625,845	4,506,305	2,632,254	1,091,613	1,804,624
Hydraulic.....	39,171,603	424,453	4,170,259	2,347,134	195,581	150,536
Fuel.....	8,871,039	2,201,392	336,046	285,120	896,032	1,654,088
Average Revenue of Generating Stations per H.P. of Primary Power.....	25.33	33.12	21.10	36.53	53.23	72.70
Average Revenue of Generating Stations per H.P. in Main and Aux. Plants....	23.62	32.20	18.77	30.17	52.59	71.83
Average Revenue of Generating Stations per K.V.A. of Dynamo Capacity.....	33.10	43.14	32.23	46.92	73.63	99.52
Average Revenue of Generating Stations per K.V.A. in Main and Aux. Plants..	30.83	41.75	28.18	39.97	73.63	98.97
Average Revenue per K.W. hour of gener- ating Stations Reporting Output....	.775c	2.169c	.913c	1.263c	3.843c	5.039c

Table 5—Free Service, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Estimated Value.....	362,199	14,198	65,352	4,374	12,529	12,714
Per Cent of Total for Canada.....	100	3.92	18.04	1.21	3.46	3.51
Commercial Stations.....	40,513	5,002	7,623	—	989	120
Non Generating.....	1,948	—	488	—	—	—
Generating.....	38,565	5,002	7,135	—	989	120
Hydraulic.....	30,819	—	5,890	—	520	—
Fuel.....	7,746	5,002	1,245	—	469	120
Municipal Stations.....	321,686	9,196	57,729	4,374	11,540	12,594
Non Generating.....	53,743	1,431	6,573	—	535	1,300
Generating.....	267,943	7,765	51,156	4,374	11,005	11,294
Hydraulic.....	167,481	—	26,546	—	6,375	2,140
Fuel.....	100,462	7,765	24,610	4,374	4,630	9,154

Tableau 4—Recettes, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
30,303,221	85,889	18,049,908	2,044,668	97,566	Total des recettes produites par l'électricité vendue
46-12	-13	27-47	3-11	-15	Pourcentage dans chaque province
8,928,140	76,011	6,195,936	1,461,140	54,418	Pour l'éclairage
21,375,081	9,878	11,853,972	583,528	43,148	Pour tous autres usages
12,142,837	74,331	17,081,267	144,226	97,566	Recettes des usines commerciales
2,649,146	518	1,348,555	-	35,384	Non productrices
9,493,691	73,813	15,732,712	144,226	62,182	Productrices
9,430,439	7,820	14,751,302	-	52,843	Hydrauliques
63,252	65,993	981,410	144,226	9,339	A combustible
18,160,384	11,558	968,641	1,900,442	-	Recettes des usines municipales
10,965,931	-	189,862	9,855	-	Non productrices
7,194,453	11,558	778,779	1,890,587	-	Productrices
7,150,337	-	490,899	-	-	Hydrauliques
44,116	11,558	287,880	1,890,587	-	A combustible
13,615,077	518	1,538,417	9,855	35,384	Recettes des usines non productrices
16,688,144	85,371	16,511,491	2,034,813	62,182	Recettes des usines productrices
16,580,776	7,820	15,242,201	-	52,843	Hydrauliques
107,368	77,551	1,269,290	2,034,813	9,339	A combustible
20-85	48-34	26-12	48-57	6-08	Moy. des recettes des usines prod. par h.p. de machinerie primaire
19-35	48-18	24-92	48-57	6-08	Moy. des recettes des usines prod. par h.p. des usines principales et auxiliaires
26-23	56-84	34-28	55-57	10-06	Moy. des recettes de usines prod. par k.v.a. de la capac. des dynamos.
24-31	56-84	32-64	55-57	10-06	Moy. des recettes des usines prod. k.v.a. des usines princip. et auxiliaires
-527c	7-588	-805c	3-994c	-746c	Moy. du revenu par k.w.heure des stations génératrices dont la prod. est connue

Tableau 5—Service gratuit, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
46,534	40	157,216	49,242	-	Valeur estimative totale
12-84	-01	43-41	13-60	-	Pourcentage dans chaque province
17,935	40	8,454	350	-	Usines commerciales
10	-	1,450	-	-	Non productrices
17,925	40	7,004	350	-	Productrices
17,915	40	6,454	-	-	Hydrauliques
10	-	550	350	-	A combustible
28,599	-	148,762	48,892	-	Usines municipales
12,030	-	30,049	1,825	-	Non productrices
16,569	-	118,713	47,067	-	Productrices
14,985	-	117,435	-	-	Hydrauliques
1,584	-	1,278	47,067	-	A combustible

CENSUS OF INDUSTRY

Table 6—Expenses, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Expenses.....	45,100,946	1,768,746	3,582,253	2,295,626	800,724	1,531,566
Per Cent of Totals for Canada.....	1 00	3.92	7.94	5.09	1.78	3.41
Salaries and Wages.....	14,626,709	685,596	1,338,882	985,791	238,227	502,692
Fuel.....	3,190,216	534,158	155,421	304,768	330,320	548,806
Miscellaneous.....	27,284,021	548,992	2,087,950	1,005,067	232,177	480,070
Total For Commercial Stations.....	24,692,105	406,950	3,125,105	711,737	689,174	1,291,539
Salaries and Wages.....	7,311,295	191,767	1,118,930	272,314	204,283	431,273
Fuel.....	1,583,383	114,033	39,580	190,227	284,516	459,706
Miscellaneous.....	15,797,422	101,150	1,966,595	249,196	200,375	400,560
Non Generating stations.....	5,524,684	8,843	1,518,538	48,020	4,292	93,649
Generating stations.....	19,167,421	398,107	1,606,567	663,717	684,882	1,197,890
Hydraulic stations.....	15,954,864	164,427	1,530,643	641,544	105,203	61,047
Fuel stations.....	3,212,557	233,680	75,924	22,173	579,679	1,136,843
Total For Municipal Stations.....	20,408,841	1,361,796	457,148	1,583,889	111,550	240,029
Salaries and Wages.....	7,315,414	493,829	219,952	713,477	33,944	71,419
Fuel.....	1,606,828	420,125	115,841	114,541	45,804	89,100
Miscellaneous.....	11,486,599	447,842	121,355	755,871	31,802	79,510
Non Generation Stations.....	9,891,550	23,062	57,400	38,946	9,117	7,779
Generating Stations.....	10,517,291	1,338,734	399,748	1,544,943	102,433	232,250
Hydraulic Stations.....	6,712,072	—	201,939	1,288,367	9,306	41,261
Fuel Stations.....	3,805,219	1,338,734	197,809	256,576	93,127	190,989

Table 7—Employees, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Number of Persons Employed.....	10,693	427	815	654	234	410
Officers, Superintendents, etc.....	1,551	39	77	35	40	52
Clerks, other Salaried Employees.....	3,130	81	294	235	47	78
Employees on Wages.....	6,012	307	444	384	147	280
Total Employees in Commercial Stations..	5,431	141	644	176	195	333
Non Generating.....	969	4	330	6	6	12
Generating.....	4,462	137	314	170	189	321
Hydraulic.....	3,674	54	285	164	52	44
Fuel.....	788	83	29	6	137	27
Total Employees in Municipal Stations...	5,262	286	171	478	39	77
Non Generating.....	3,047	4	14	11	2	2
Generating.....	2,215	282	157	467	37	75
Hydraulic.....	1,257	—	90	406	8	26
Fuel.....	958	282	67	61	29	49

Tableau 6—Dépenses, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
21,171,696 46-94	73,322 -16	12,226,810 27-11	1,587,670 3-52	62,531 -14	Total des dépenses
6,904,876	32,911	3,312,605	591,914	33,215	Pourcentage dans chaque province
400,838	27,405	124,290	759,091	5,119	Traitements, appointements et salaires
13,865,982	13,006	8,789,915	236,665	24,197	Combustible
6,640,095	62,896	11,578,744	123,334	62,531	Dépenses diverses
1,930,775	30,531	3,061,101	37,106	33,215	Total pour les usines commerciales
329,538	21,390	73,433	65,846	5,119	Traitements, appointements et salaires
4,379,782	10,975	8,444,210	20,382	24,197	Combustible
2,807,355	259	1,018,970	-	24,758	Dépenses diverses
3,832,740	62,637	10,559,774	123,334	37,773	Usines non productrices
3,734,505	3,655	9,690,895	-	22,945	Usines productrices
98,235	58,982	868,879	123,334	14,828	Usines hydrauliques
14,531,601	10,426	648,066	1,464,336	-	Usines à combustible
4,974,101	2,380	251,504	554,808	-	Total pour les usines municipales
71,300	6,015	50,857	693,245	-	Traitements, appointements et salaires
9,486,200	2,031	345,705	216,283	-	Combustible
9,579,959	-	165,902	9,385	-	Dépenses diverses
4,951,642	10,426	482,164	1,454,951	-	Usines non productrices
4,881,317	-	289,882	-	-	Usines productrices
70,325	10,426	192,282	1,454,951	-	Usines hydrauliques
				-	Usines à combustible

Tableau 7—Personnel, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
5,120	41	2,560	413	19	Total du personnel occupé
1,034	7	215	44	8	Administrateurs, etc.
1,390	8	900	95	2	Commis et tous employés des bureaux
2,696	26	1,445	274	9	Ouvriers et journaliers
1,513	36	2,333	41	19	Personnel des usines commerciales
442	-	162	-	7	Non productrices
1,071	36	2,171	41	12	Productrices
1,045	6	2,018	-	6	Hydrauliques
26	30	153	41	6	A combustible
3,607	5	227	372	-	Personnel des usines municipales
2,961	-	51	2	-	Non productrices
646	5	176	370	-	Productrices
626	-	101	-	-	Hydrauliques
20	5	75	370	-	A combustible

CENSUS OF INDUSTRY

Table 8—Number of Subscribers 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Number of Subscribers	894,158	49,415	85,806	64,767	19,406	32,965
Per cent of Total for Canada.....	100	5.41	9.60	7.24	2.17	3.69
Commercial.....	129,251	3,836	15,897	12,355	4,521	6,232
Private.....	764,907	44,579	69,909	52,412	14,885	26,733
Total Number of Subscribers Commercial						
Stations.....	437,672	7,453	69,617	16,310	16,401	25,811
Non Generating.....	106,364	206	47,480	424	180	2,538
Generating.....	331,308	7,247	22,137	15,886	16,221	23,273
Hydraulic.....	269,773	2,300	21,164	15,688	2,217	2,646
Fuel.....	61,535	4,947	973	198	14,004	20,627
Total Number of Subscribers Municipal						
Stations.....	456,456	40,962	16,189	48,457	3,005	7,154
Non Generating.....	283,768	571	4,441	1,101	344	408
Generating.....	172,718	40,391	11,748	47,356	2,661	6,746
Hydraulic.....	76,880	—	5,845	42,957	695	2,233
Fuel.....	95,838	40,391	5,903	4,399	1,966	4,513
Total Number of Subscribers Non-Generating Stations	390,132	777	51,921	1,525	524	2,946
Total Number of Subscribers Generating Stations	504,026	47,638	33,885	63,242	18,882	30,019
Hydraulic.....	346,653	2,300	27,009	58,645	2,912	4,879
Fuel.....	157,373	45,338	6,876	4,597	15,970	25,140
Average Number of Private Subscribers per 100 of Population	8.86	7.83	13.60	8.76	3.88	5.14

Table 9—Pole Line Mileage, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Pole Line Mileage	20,879	924	2,831	1,030	513	798
Percent of Total for Canada.....	100.0	4.43	13.56	4.93	2.46	3.82
For Transmission.....	7,850	209	965	203	74	157
For Distribution.....	13,029	715	1,866	827	439	641
Total Pole Line Mileage—Commercial Stations	10,721	275	2,408	502	406	624
Non Generating.....	2,877	15	1,227	26	9	68
Generating.....	7,844	260	1,181	476	397	556
Hydraulics.....	6,626	146	1,151	467	115	111
Fuel.....	1,218	114	30	9	282	445
Total Pole Line Mileage Municipal—Stations	10,158	649	423	528	107	174
Non Generating.....	4,351	13	84	33	14	12
Generating.....	5,807	636	339	495	93	162
Hydraulic.....	4,206	—	179	413	40	67
Fuel.....	1,601	636	160	82	53	95

Tableau 8—Abonnés, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
359,515	2,903	248,392	31,551	438	Nombre d'abonnés
40,21	32	27,78	3,53	05	Pourcentage du total pour le Canada
57,289	327	21,909	6,732	153	Commerçants
302,226	2,576	226,483	24,819	285	Particuliers
78,940	2,462	217,229	3,011	438	Nombre total des abonnés des usines
36,578	25	18,619	—	314	commerciales
42,362	2,437	198,610	3,011	124	Non productrices
41,725	527	183,503	—	3	Productrices
637	1,910	15,107	3,011	121	Hydrauliques
					A combustible
280,575	441	31,163	28,540	—	Nombre total des abonnés des usines munici-
268,028	—	8,633	242	—	pales
12,547	441	22,530	28,298	—	Non productrices
10,927	—	14,223	—	—	Productrices
1,620	441	8,307	28,298	—	Hydrauliques
					A combustible
304,606	25	27,252	242	314	Nombre total des abonnés des usines non
					productrices
54,909	2,878	221,140	31,309	124	Nombre total des abonnés des usines pro-
52,652	527	197,726	—	3	ductrices
2,257	2,351	23,414	31,309	121	Hydrauliques
					A combustible
10,46	2,89	9,75	3,38	6,21	Nomb. moy. d'abonnés (éclairage des mai-
					sons) par 100 habitants

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
9,655	61	4,441	558	68	Longueur totale, en milles, des lignes sur
46,25	29	21,27	2,66	33	poteaux
3,874	21	2,257	34	56	Pourcentage dans chaque province
5,781	40	2,184	524	12	Pour la transmission
					Pour la distribution
2,366	52	3,939	81	68	Pour le service des usines commerciales
663	8	855	—	6	Non productrices
1,703	44	3,084	81	62	Productrices
1,676	31	2,870	—	59	Hydrauliques
27	13	214	81	3	A combustible
7,289	9	502	477	—	Pour le service des usines municipales
4,012	—	176	7	—	Non productrices
3,277	9	326	470	—	Productrices
3,224	—	283	—	—	Hydrauliques
53	9	43	470	—	A combustible

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Table 10—Equipment, 1920

TOTAL EQUIPMENT INCLUDING THE AUXILIARY PLANT EQUIPMENT

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power..... H.P....	2,033,616	81,538	240,089	87,256	20,758	25,124
Per Cent of Total for Canada.....	100.00	4.01	11.81	4.29	1.02	1.24
Water Wheels and Turbines.... No....	594	13	54	15	16	15
Total Capacity..... H.P....	1,754,430	32,380	206,921	68,800	9,063	3,452
Steam Engines and Turbines.... No....	293	62	32	21	23	47
Total Capacity..... H.P....	266,551	47,758	30,913	17,701	10,585	21,348
Gas and Oil Engines..... No....	182	22	14	14	7	5
Total Capacity..... H.P....	12,935	1,400	2,255	755	1,110	324
Secondary Power Equipment—						
Dynamos A. C. and D.C..... No....	1,029	93	105	48	46	67
Total Capacity..... K.V.A....	1,558,291	62,892	159,934	65,848	14,826	18,234
Per Cent of Total for Canada.....	100.00	4.03	10.26	4.23	.95	1.17

Table 11—Auxiliary Plant Equipment, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power..... H.P....	136,592	2,250	26,480	15,206	250	300
Per Cent of Total for Canada.....	100.00	1.68	19.83	11.39	.19	.23
Steam Reciprocating Engines.... No....	34	2	3	3	1	2
Total Capacity..... H.P....	12,771	1,250	780	3,206	250	300
Steam Turbines..... No....	26	1	9	2	—	—
Total Capacity..... H.P....	123,600	1,000	25,500	12,000	—	—
Gas and Oil Engines..... No....	3	—	1	—	—	—
Total Capacity..... H.P....	221	—	200	—	—	—
Total Secondary Power..... K.V.A....	106,462	2,025	20,115	9,750	—	100
Per Cent of Total for Canada.....	100.00	1.90	18.89	9.16	—	.09
Dynamos, A.C..... No....	47	3	13	5	—	1
Total Capacity..... K.V.A....	106,462	2,025	20,115	9,750	—	100
Dynamos, D.C..... No....	—	—	—	—	—	—
Total Capacity..... K.V.A....	—	—	—	—	—	—

Tableau 10—Machinerie, 1920

TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
862,481	1,772	662,487	41,891	10,220	Total, force motrice primaire.....H.P.
42.41	.09	32.57	2.06	.50	Pourcentage dans chaque province
269	8	202	—	2	Turbines et roues hydrauliques....nomb.
797,523	279	625,712	—	10,000	Capacité totale.....h.p.
38	2	34	32	2	Machines et turbines à vapeur....nomb.
64,225	500	36,460	36,841	220	Capacité totale.....h.p.
12	7	9	92	—	Moteurs à gaz et à pétrole.....nomb.
733	993	315	5,050	—	Capacité totale.....h.p.
					Machinerie développant la force motrice secondaire—
299	15	227	124	5	Dynamos, C.A. et C.D.....nomb.
636,424	1,502	505,834	36,617	6,180	Capacité totale.....K.V.A.
44.05	.10	32.46	2.35	.40	Pourcentage dans chaque province

Tableau 11—Machines des usines auxiliaires, 1920

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
61,980	6	30,120	—	—	Total, force motrice primaire.....H.P.
44.38	00.00	22.30	00.00	00.00	Pourcentage dans chaque province
12	—	11	—	—	Machines à vapeur.....nomb.
2,365	—	4,620	—	—	Capacité totale.....h.p.
8	—	6	—	—	Turbines à vapeur.....nomb.
59,600	—	25,500	—	—	Capacité totale.....h.p.
1	1	—	—	—	Moteurs à gaz et à pétrole.....nomb.
15	6	—	—	—	Capacité totale.....h.p.
50,247	—	24,225	—	—	Total, force motrice primaire
47.20	—	22.76	00.00	00.00	Pourcentage dans chaque province
14	—	11	—	—	Dynamos, C.A.....nomb.
50,247	—	24,225	—	—	Capacité totale.....K.V.A.
—	—	—	—	—	Dynamos, C.D.....nomb.
—	—	—	—	—	Capacité totale.....K.V.A.

Table 12—Main Plant Equipment, 1920

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
Total Primary Power.....H.P....	1,897,024	79,288	213,609	72,050	20,508	24,824
Per Cent of Total for Canada.....	100.00	4.18	11.26	3.80	1.08	1.31
Water Wheels and Turbines.....No....	594	13	54	15	16	15
Total Capacity.....H.P....	1,754,130	32,380	206,921	68,800	9,063	3,452
Steam Reciprocating Engines.....No....	196	48	20	16	17	38
Total Capacity.....H.P....	49,430	12,558	4,633	2,405	5,260	11,583
Steam Turbines.....No....	37	11	—	—	5	7
Total Capacity.....H.P....	80,750	32,950	—	—	5,075	9,465
Gas and Oil Engines.....No....	179	22	13	14	7	5
Total Capacity.....H.P....	12,714	1,400	2,055	755	1,110	324
Boilers.....No.....	359	107	21	22	32	69
Total Capacity.....H.P....	73,664	26,290	2,099	2,525	6,104	13,188
Per cent of Total for Canada.....	100	35.69	2.85	3.43	8.29	17.90
Total Dynamo Capacity.....K.V.A..	1,451,829	60,867	139,819	56,098	14,826	18,134
Per Cent of Total for Canada.....	100	4.20	9.63	3.86	1.02	1.25
Dynamos A.C.....No....	817	65	81	30	39	55
Totals Capacity.....K.V.A.	1,439,937	57,924	138,684	55,766	13,967	16,339
Dynamos D.C.....No....	165	25	11	13	7	11
Totals Capacity.....K.V.A.	11,892	2,943	1,135	332	859	1,795
Commercial Stations						
Total Primary Power.....H.P....	1,415,488	36,035	199,924	22,734	18,233	20,028
Per Cent of Total for Canada.....	100	2.55	14.12	1.61	1.29	1.41
Water Wheels and Turbines.....No....	454	13	43	7	13	7
Total Capacity.....H.P....	1,370,496	32,380	197,046	22,400	8,253	1,248
Steam Reciprocating Engines.....No....	102	19	12	4	14	28
Total Capacity.....H.P....	25,572	3,305	2,788	265	4,845	9,950
Steam Turbines.....No....	12	—	—	—	5	4
Total Capacity.....H.P....	16,039	—	—	—	5,075	8,720
Gas and Oil Engines.....No....	95	16	3	5	2	2
Total Capacity.....H.P....	3,381	350	90	69	60	110
Boilers.....No.....	158	27	9	3	26	53
Total Capacity.....H.P....	27,080	3,465	859	280	5,479	10,828
Per Cent of Total for Canada.....	100	12.79	3.17	1.03	20.23	39.99
Total Dynamo Capacity.....K.V.A.	1,078,611	25,128	130,651	16,533	13,102	14,483
Per cent of Total for Canada....	100	2.33	12.11	1.53	1.22	1.34
Dynamos A.C.....No....	506	30	51	9	27	30
Total Capacity.....K.V.A.	1,070,760	24,970	129,516	16,463	12,243	12,688
Dynamos D.C.....No....	131	16	11	5	7	11
Total Capacity.....K.V.A.	7,851	158	1,135	70	859	1,795
Municipal Stations—						
Total Primary Power.....H.P....	481,536	43,253	13,685	49,316	2,275	4,796
Per cent of Total for Canada.....	100	8.98	2.84	10.24	0.47	1.00
Water Wheels and Turbines.....No....	140	—	11	8	3	8
Total Capacity.....H.P....	383,634	—	9,875	46,400	810	2,204
Steam Reciprocating Engines.....No....	94	29	8	12	3	10
Total Capacity.....H.P....	23,858	9,253	1,845	2,290	415	1,633
Steam Turbines.....No....	25	11	—	—	—	3
Total Capacity.....H.P....	64,711	32,950	—	—	—	745
Gas and Oil Engines.....No....	84	6	10	9	5	3
Total Capacity.....H.P....	9,333	1,050	1,965	656	1,050	214
Boilers.....No.....	201	80	12	19	6	16
Total Capacity.....H.P....	46,584	22,825	1,239	2,245	625	2,360
Per Cent of Total for Canada.....	100	49.00	2.66	4.82	1.34	5.07
Total Dynamo Capacity.....K.V.A.	373,218	35,739	9,168	39,565	1,724	3,651
Per Cent of Total for Canada.....	100	9.58	2.46	10.60	0.46	0.98
Dynamos A.C.....No....	311	35	30	21	12	25
Total Capacity.....K.V.A.	369,177	32,954	9,168	39,303	1,724	3,651
Dynamos D.C.....No....	34	9	—	8	—	—
Total Capacity.....K.V.A.	4,041	2,785	—	262	—	—

Tableau 12—Machines des usines principales, 1920

Ontario	Prince Edward Is. Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
800,501	1,766	632,367	41,891	10,220	Machinerie fournissant la force motrice primaire..H.P.
42-20	0-09	33-33	2-21	0-54	Pourcentage dans chaque province
269	8	202	-	2	Turbines et roues hydrauliques.....nomb.
797,523	279	625,712	-	10,000	Capacité totale.....h.p.
18	2	16	20	1	Machines à vapeur.....nomb.
2,260	500	4,340	5,741	60	Capacité totale.....h.p.
-	-	1	12	1	Turbines à vapeur.....nomb.
11	6	2,000	31,100	160	Capacité totale.....h.p.
718	987	315	5,050	-	Moteurs à gaz et à pétrole.....nomb.
					Capacité totale.....h.p.
21	2	21	62	2	Chaudières.....No.
2,445	500	4,194	16,060	260	Capacité totale.....H.P.
3-32	0-68	5-69	21-80	0-35	Pourcentage dans chaque province
636,177	1,502	481,609	36,617	6,180	Capacité totale de l'ensemble des dynamos.. K.V.A.
43-82	0-10	33-17	2-52	0-43	Pourcentage dans chaque province
2 65	13	197	69	3	Dynamos, C.A.....nomb.
635,004	1,491	479,446	35,166	6,150	Capacité totale.....K.V.A.
20	2	19	55	2	Dynamos, C.D.....nomb.
1,173	11	2,163	1,451	30	Capacité totale.....K.V.A.
					Usines commerciales
487,901	1,466	617,012	1,935	10,220	Machinerie fournissant la force motrice prim. H.P.
34-47	0-10	43-59	0-14	0-72	Pourcentage dans chaque province
781	8	180	-	2	Turbines et roues hydrauliques.....nomb.
486,073	279	612,817	-	10,000	Capacité totale.....h.p.
8	1	9	6	1	Machines à vapeur.....nomb.
1,185	350	2,090	734	60	Capacité totale.....h.p.
-	-	1	1	1	Turbines à vapeur.....nomb.
-	-	2,000	84	160	Capacité totale.....h.p.
9	5	5	48	-	Moteurs à gaz et à pétrole.....nomb.
643	837	105	1,117	-	Capacité totale.....h.p.
10	1	17	10	2	Chaudières.....No.
1,285	250	3,224	1,150	260	Capacité totale.....H.P.
4-75	0-92	11-91	4-25	0-96	Pourcentage dans chaque province
399,750	1,202	470,216	1,366	6,180	Capacité totale de l'ensemble des dynamos... K.V.A.
37-06	0-11	43-60	0-13	0-57	Pourcentage dans chaque province
168	11	165	12	3	Dynamos, C.A.....nomb.
398,612	1,191	468,095	832	6,150	Capacité totale.....h.p.
19	2	16	42	2	Dynamos, C.D.....nomb.
1,138	11	2,121	534	30	Capacité totale.....h.p.
					Usines municipales
312,600	300	15,355	39,956	-	Machinerie fournissant la force motrice prim. H.P.
64-92	0-06	3-19	8-30	-	Pourcentage dans chaque province
88	-	22	-	-	Turbines et roues hydrauliques.....nomb.
311,450	-	12,895	-	-	Capacité totale.....h.p.
10	1	7	14	-	Machines à vapeur.....nomb.
1,075	150	2,250	5,007	-	Capacité totale.....h.p.
-	-	-	11	-	Turbines à vapeur.....nomb.
-	-	-	31,016	-	Capacité totale.....h.p.
2	1	4	44	-	Moteurs à gaz et à pétrole.....nomb.
75	150	210	3,933	-	Capacité totale.....h.p.
11	1	4	52	-	Chaudières.....No.
1,160	250	970	14,910	-	Capacité totale.....H.P.
2-47	0-54	2-08	32-00	-	Pourcentage dans chaque province
236,427	300	11,393	35,251	-	Capacité totale de l'ensemble des dynamos... K.V.A.
63-34	0-08	3-05	9-45	-	Pourcentage dans chaque province
97	2	32	57	-	Dynamos, C. A.....nomb.
236,392	300	11,351	54,334	-	Capacité totale.....h.p.
1	-	3	13	-	Dynamos, C. D.....nomb.
35	-	42	917	-	Capacité totale.....h.p.

Table 13—Main Plant Equipment, Classified, 1920

		Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	
Primary Power—Force motrice primaire		1	1,897,024	79,288	213,609	72,050
Water Wheels and Turbines—Roues hydrauliques et turbines—						
Total.....No.	2	594	13	54	15	
Total H.P.	3	1,754,130	32,380	206,921	68,800	
Under—Au-dessous de 500 H.P.....No.	4	222	7	16	—	
Total H.P.	5	37,585	780	2,555	—	
500-2,000 H.P.....No.	6	180	—	17	2	
Total H.P.	7	191,660	—	19,966	1,000	
2,000-5,000 H.P.....No.	8	67	2	5	2	
Total H.P.	9	187,585	3,000	14,400	6,400	
5,000-10,000 H.P.....No.	10	51	4	6	11	
Total H.P.	11	328,000	23,600	46,000	61,400	
10,000-15,000 H.P.....No.	12	47	—	10	—	
Total H.P.	13	543,800	—	124,000	—	
15,000 up.....No.	14	27	—	—	—	
Total H.P.	15	465,500	—	—	—	
Steam Engines and Turbines—Machines et turbines à vapeur—						
Total.....No.	16	233	59	20	16	
Total H.P.	17	130,180	45,508	4,633	2,495	
Steam Reciprocating Engines—Machines à vapeur—						
Total.....No.	18	196	48	20	16	
Total H.P.	19	49,430	12,558	4,633	2,495	
Under—Au-dessous de 500 H.P.....No.	20	171	41	18	16	
Total H.P.	21	29,770	6,538	3,233	2,495	
500 up.....No.	22	25	7	2	—	
Total H.P.	23	19,660	6,020	1,400	—	
Steam Turbines—Turbines à vapeur—						
Total.....No.	24	37	11	—	—	
Total H.P.	25	80,750	32,950	—	—	
Under—Au-dessous de 500 H.P.....No.	26	6	—	—	—	
Total H.P.	27	1,239	—	—	—	
500—2,000 H.P.....No.	28	10	2	—	—	
Total H.P.	29	8,451	2,000	—	—	
2,000-5,000 H.P.....No.	30	18	7	—	—	
Total H.P.	31	51,860	18,450	—	—	
5,000 up.....No.	32	3	2	—	—	
Total H.P.	33	19,200	12,500	—	—	
Gas and Oil Engines—Moteurs à gaz et à pétrole—						
Total.....No.	34	179	22	13	14	
Total H.P.	35	12,714	1,400	2,055	755	
Secondary Power—Force motrice secondaire						
Dynamos, A. C. and D.C.—C.A. et C.D.....Total.....No.	36	982	90	92	43	
Total K.V.A.	37	1,451,829	60,867	139,819	56,098	
Dynamos, A.C.—C.A.....Total.....No.	38	817	65	81	30	
Total K.V.A.	39	1,439,937	57,924	138,684	55,766	
Under—Au-dessous de 200 K.V.A.....No.	40	302	37	35	11	
Total K.V.A.	41	28,539	3,381	3,525	891	
200-500 K.V.A.....No.	42	129	9	11	6	
Total K.V.A.	43	39,400	2,838	3,746	1,775	
500-1,000 K.V.A.....No.	44	140	3	11	—	
Total K.V.A.	45	101,141	2,080	9,463	—	
1,000-5,000 K.V.A.....No.	46	150	14	10	10	
Total K.V.A.	47	341,367	38,375	19,525	34,350	
5,000-10,000 K.V.A.....No.	48	48	2	14	3	
Total K.V.A.	49	348,150	11,250	102,425	18,750	
10,000-15,000 K.V.A.....No.	50	46	—	—	—	
Total K.V.A.	51	551,340	—	—	—	
15,000 up.....No.	52	2	—	—	—	
Total K.V.A.	53	30,000	—	—	—	
Dynamos, D.C.—C.D.....Total.....No.	54	165	25	11	13	
Total K.V.A.	55	11,892	2,943	1,135	332	
Under—Au-dessous de 200 K.V.A.....No.	56	145	20	9	13	
Total K.V.A.	57	4,117	293	635	332	
200-500 K.V.A.....No.	58	15	2	2	—	
Total K.V.A.	59	4,675	800	500	—	
500-1,000 K.V.A.....No.	60	5	3	—	—	
Total K.V.A.	61	3,100	1,850	—	—	

Tableau 13—Machines des usines principales, classifiées, 1920

New Brunswick — Nouveau-Brunswick	Nova Scotia — Nouvelle-Ecosse	Ontario	Prince Edward Is. — Ile du Pr.-Edouard	Quebec	Saskatchewan.	Yukon	Commercial — Commerciales	Municipal — Municipales	
20,508	24,824	800,501	1,766	632,367	41,891	10,220	1,415,488	481,536	1
16	15	269	8	202	—	2	454	140	2
9,063	3,452	797,523	279	625,712	—	10,000	1,370,496	383,634	3
11	14	82	8	84	—	—	180	42	4
2,263	2,702	13,944	279	15,062	—	—	29,335	8,250	5
3	1	107	—	50	—	—	116	64	6
2,000	750	112,969	—	54,975	—	—	124,836	66,824	7
2	—	30	—	26	—	—	60	7	8
4,800	—	81,860	—	72,125	—	—	170,425	17,160	9
—	—	12	—	16	—	2	40	11	10
—	—	74,550	—	112,450	—	10,000	264,800	63,200	11
—	—	22	—	15	—	—	40	7	12
—	—	258,700	—	161,100	—	—	462,600	81,200	13
—	—	16	—	11	—	—	18	9	14
—	—	255,500	—	210,000	—	—	318,500	147,000	15
22	45	18	2	17	32	2	114	119	16
10,335	21,048	2,260	500	6,340	36,841	220	41,611	88,569	17
17	38	18	2	16	20	1	102	94	18
5,260	11,583	2,260	500	4,340	5,741	60	25,572	23,858	19
14	31	18	2	14	16	1	90	81	20
2,360	6,523	2,260	500	3,070	2,731	60	16,142	13,628	21
3	7	—	—	2	4	—	12	13	22
2,900	5,060	—	—	1,270	3,010	—	9,430	10,230	23
5	7	—	—	1	12	1	12	25	24
5,075	9,465	—	—	2,000	31,100	160	16,039	64,711	25
1	3	—	—	—	1	1	3	3	26
250	745	—	—	—	84	160	494	745	27
3	2	—	—	—	3	—	5	5	28
1,825	2,020	—	—	—	2,608	—	3,845	4,606	29
1	2	—	—	1	7	—	4	14	30
3,000	6,700	—	—	2,000	21,710	—	11,700	40,160	31
—	—	—	—	—	1	—	—	3	32
—	—	—	—	—	6,700	—	—	19,200	33
7	5	11	6	9	92	—	95	84	34
1,110	324	718	987	315	5,050	—	3,381	9,333	35
46	66	285	15	216	124	5	637	345	36
14,826	18,134	636,177	1,502	481,609	36,617	6,180	1,078,611	373,218	37
39	55	265	13	197	69	3	506	311	38
13,967	16,339	635,004	1,491	479,446	35,166	6,150	1,070,760	369,177	39
20	33	49	11	53	52	1	153	149	40
2,349	3,228	4,816	991	5,543	3,665	150	14,009	14,530	41
11	14	45	2	28	3	—	74	55	42
3,543	4,186	13,929	500	8,086	797	—	22,226	17,174	43
5	5	75	—	36	5	—	93	47	44
2,700	2,925	55,197	—	25,822	2,954	—	66,625	34,516	45
3	3	52	—	48	8	2	112	38	46
5,375	6,000	103,147	—	107,095	21,500	6,000	253,425	87,942	47
—	—	19	—	9	1	—	39	9	48
—	—	154,775	—	54,700	6,250	—	283,775	64,375	49
—	—	23	—	23	—	—	35	11	50
—	—	273,140	—	278,200	—	—	430,700	120,640	51
—	—	2	—	—	—	—	—	2	52
—	—	30,000	—	—	—	—	—	30,000	53
7	11	20	2	19	55	2	131	34	54
859	1,795	1,173	11	2,183	1,451	30	7,851	4,041	55
6	6	19	2	15	53	2	118	27	56
209	395	973	11	588	651	30	3,526	591	57
—	5	1	—	3	2	—	11	4	58
—	1,400	200	—	975	800	—	3,075	1,600	59
1	—	—	—	1	—	—	2	3	60
650	—	—	—	600	—	—	1,250	1,850	61

Table 14—Electric Energy Generated, 1920

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
ALL STATIONS						
K.W. hours Generated.....(thousands)	5,894,867	114,101	485,177	207,131	25,632	33,731
K.V.A. Capacity Reporting.....	1,471,369	60,995	156,907	65,669	12,704	15,478
Per cent of Total K.V.A. Capacity.....	94	97	98	100	86	85
Average K.W. hours per K.V.A.....	4,006	1,871	3,092	3,154	2,018	2,179
Commercial Stations						
Total						
K.W. hours Generated.....(thousands)	4,456,428	63,709	470,287	92,187	24,128	31,837
K.V.A. Capacity Reporting.....	1,106,397	25,764	148,095	26,238	11,449	13,745
per cent of Total K.V.A. Capacity.....	95	95	99	100	87	94
Average K.W. hours per K.V.A.....	4,028	2,473	3,176	3,552	2,107	2,316
Hydraulic						
K.W. hours Generated.....(thousands)	4,400,291	61,325	465,671	95,098	8,437	1,741
K.V.A. Capacity Reporting.....	1,077,579	24,275	146,033	26,100	4,575	836
per cent of Total K.V.A. Capacity.....	96	100	100	100	74	72
Average K.W. hours per K.V.A.....	4,083	2,526	3,189	3,567	1,844	2,083
Fuel						
K.W. hours Generated.....(thousands)	56,137	2,384	4,616	89	15,691	30,096
K.V.A. Capacity Reporting.....	28,818	1,489	2,062	138	6,874	12,909
per cent of Total K.V.A. Capacity.....	88	52	82	75	100	96
Average K.W. hours per K.V.A.....	1,948	1,601	2,239	645	2,283	2,331
Municipal Stations						
Total						
K.W. hours Generated.....(thousands)	1,438,439	50,392	14,890	113,944	1,504	1,894
K.V.A. Capacity Reporting.....	364,972	35,231	8,812	39,431	1,255	1,733
per cent of Total K.V.A. Capacity.....	97	99	80	100	73	47
Average K.W. hours per K.V.A.....	3,941	1,430	1,690	2,890	1,198	1,093
Hydraulic						
K.W. hours Generated.....(thousands)	1,330,013	—	11,673	111,424	930	—
K.V.A. Capacity Reporting.....	285,927	—	6,141	37,500	663	—
per cent of Total K.V.A. Capacity.....	97	—	75	100	100	—
Average K.W. hours per K.V.A.....	4,652	—	1,901	2,971	1,403	—
Fuel						
K.W. hours Generated.....(thousands)	108,426	50,392	3,217	2,520	574	1,894
K.V.A. Capacity Reporting.....	79,045	35,231	2,671	1,931	592	1,733
per cent of Total K.V.A. Capacity.....	97	99	95	94	56	86
Average K.W. hours per K.V.A.....	1,372	1,430	1,204	1,305	970	1,093
Total Hydraulic						
K.W. hours Generated.....(thousands)	5,730,304	61,325	477,344	204,522	9,367	1,741
K.V.A. Capacity Reporting.....	1,363,506	24,275	152,174	63,600	5,238	836
per cent of Total K.V.A. Capacity.....	96	100	98	100	76	30
Average K.W. hours per K.V.A.....	4,203	2,526	3,137	3,216	1,788	2,083
Total Fuel						
K.W. hours Generated.....(thousands)	164,583	52,776	7,833	2,609	16,265	31,990
K.V.A. Capacity Reporting.....	107,863	36,720	4,733	2,069	7,466	11,642
per cent of Total K.V.A. Capacity.....	94	95	89	92	94	95
Average K.W. hours per K.V.A.....	1,526	1,437	1,655	1,261	2,178	2,185

Tableau 14—Energie électrique produite, 1920

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskatchewan	Yukon	
TOUTES USINES					
3,057,124	1,075	1,914,698	47,866	8,332	K.W. heures produits (milliers)
649,136	1,283	467,641	35,376	6,180	K.V.A. puissance potentielle
95	85	92	97	100	Pourcent. de la puissance potentielle en K.V.A.
4,710	838	4,094	1,353	1,348	Moyenne des K.W. heures par K.V.A.
Usines commerciales					
Total					
1,868,116	937	1,895,298	597	8,332	K.W. heures produites (milliers)
415,522	983	457,665	756	6,180	K.V.A. puissance potentielle
96	82	93	55	100	Pourcent. de la puissance potentielle en K.V.A.
4,496	953	4,141	788	1,348	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
1,867,171	46	1,894,517	—	8,285	K.W. heures produits (milliers)
414,952	138	454,670	—	6,000	K.V.A. puissance potentielle
97	39	93	—	100	Pourcent. de la puissances potentielle en K.V.A.
4,500	333	4,167	—	1,381	Moyenne des K.W. heures par K.V.A.
A combustible					
945	891	781	597	47	K.W. heures produits (milliers)
570	845	2,995	756	180	K.V.A. puissance potentielle
47	100	88	55	100	Pourcent. de la puissance potentielle en K.V.A.
1,658	1,054	261	788	261	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
1,189,008	138	19,400	47,269	—	K.W. heures produits. (milliers)
233,614	300	9,976	34,620	—	K.V.A. puissance potentielle
98	100	88	98	—	Pourcent. de la puissance potentielle en K.V.A.
5,090	460	1,945	1,365	—	Moyenne des K.W. heures par K.V.A.
Hydraulique					
1,188,698	—	17,288	—	—	K.W. heures produits (milliers)
233,290	—	8,333	—	—	K.V.A. puissance potentielle
99	—	86	—	—	Pourcent. de la puissance potentielle en K.V.A.
5,095	—	2,075	—	—	Moyenne des K.W. heures par K.V.A.
A combustible					
310	138	2,112	47,269	—	K.W. heures produits (milliers)
324	300	1,643	34,620	—	K.V.A. puissances potentielle
38	100	95	98	—	Pourcent. de la puissance potentielle en K.V.A.
957	460	1,285	1,365	—	Moyenne des K.W. heures par K.V.A.
Total, hydrauliques					
3,055,869	46	1,911,805	—	8,285	K.W. heures produits (milliers)
648,242	138	463,003	—	6,000	K.V.A. puissances potentielle
97	39	93	—	100	Pourcent. de la puissance potentielle en K.V.A.
4,714	333	4,129	—	1,381	Moyenne des K.W. heures par K.V.A.
Total, à combustible					
1,255	1,029	2,893	47,866	47	K.W. heures produits (milliers)
894	1,145	4,638	35,376	180	K.V.A. puissance potentielle
43	100	90	97	100	Pourcent. de la puissance potentielle en K.V.A.
1,404	899	624	1,353	261	Moyenne des K.W. heures par K.V.A.

Table 15—Fuel, 1920

Provinces	Bituminous Coal Slack — Houille bitumineuse, menue				Bituminous Coal lump — Houille bitumineuse, morceaux				Bituminous Coal run of mine — Houille bitumineuse, tout venant			
	Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadienne		Foreign — Etrangère	
	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur
	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$
Canada....	98,691	598,697	19,367	193,647	11,475	71,590	1,349	12,878	98,077	775,382	39,335	271,271
Alberta.....	13,564	52,741	—	—	2,746	14,124	—	—	4,583	26,635	—	—
Br. Columbia...	6,404	43,733	705	5,635	1,179	11,279	—	—	5,988	34,071	—	—
Manitoba.....	5,231	49,590	4,947	45,959	—	—	—	—	5,939	67,441	9,761	10,051
New Brunswick	11,928	82,313	—	—	1,551	10,245	—	—	23,414	193,898	—	—
Nova Scotia....	33,311	148,521	—	—	5,999	35,942	—	—	45,066	348,293	500	5,000
Ontario.....	—	—	9,355	104,090	—	—	1,135	10,729	4,652	38,897	24,570	213,591
Pr. Ed. Island..	—	—	—	—	—	—	—	—	1,618	16,222	—	—
Quebec.....	—	—	4,360	37,954	—	—	214	2,149	76	764	4,504	42,624
Saskatchewan..	27,653	220,799	—	—	—	—	—	—	6,741	49,161	—	—
Yukon.....	—	—	—	—	—	—	—	—	—	—	—	—

Provinces	Gasoline — Gazoline				Oil Fuel — Pétrole				Wood — Bois			
	Canadian — Canadienne		Foreign — Etrangère		Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger	
	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur	Quant- ity — Quantité	Value — Valeur
	gal. — gal.	\$	gal. — gal.	\$	gal. — gal.	\$	gal. — gal.	\$	cord. — corde	\$	cord. — corde	\$
Canada....	125,983	48,003	10,703	4,453	511,961	100,691	222,406	31,809	13,348	74,421	—	—
Alberta.....	13,181	4,901	—	—	—	—	—	—	20	200	—	—
Br. Columbia...	1,443	619	—	—	189,122	34,603	116,934	10,370	2,722	9,654	—	—
Manitoba.....	15,253	5,531	—	—	44,475	9,401	—	—	3,263	29,327	—	—
New Brunswick	150	385	400	120	7,956	1,620	82,062	15,634	3,365	11,912	—	—
Nova Scotia....	—	—	—	—	21,000	4,297	12,040	1,926	—	4	—	—
Ontario.....	1,166	402	400	230	168	42	170	48	2,382	12,206	—	—
Pr. Ed. Island..	672	274	—	—	600	150	—	—	—	—	—	—
Quebec.....	8,570	3,378	15	20	—	—	6,000	1,200	110	590	—	—
Saskatchewan..	85,548	32,513	9,888	4,083	248,640	50,578	5,200	2,631	902	5,409	—	—
Yukon.....	—	—	—	—	—	—	—	—	—	5,119	—	—

Tableau 15—Combustible, 1920

Anthracite Coal — Anthracite				Lignite Coal — Lignite				Coke — Coke				Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	
ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	
6,163	16,574	12,003	116,079	277,446	847,436	-	-	29	372	-	-	Canada
5,885	13,156	75	1,550	174,183	408,733	-	-	-	-	-	-	Alberta
80	1,062	208	3,747	18,518	82,656	-	-	3	27	-	-	Colomb. Britan.
-	-	982	12,500	-	-	-	-	-	-	-	-	Manitoba
-	-	97	1,898	-	-	-	-	-	-	-	-	Nouv.-Brunsw.
-	-	1,998	19,271	-	-	-	-	19	259	-	-	Nouvelle-Ecosse
-	-	739	10,759	-	-	-	-	-	-	-	-	Ontario
-	-	5,977	31,126	-	-	-	-	-	-	-	-	Ile du Pr.-Ed.
198	2,356	1,927	35,228	84,745	356,047	-	-	7	86	-	-	Québec
-	-	-	-	-	-	-	-	-	-	-	-	Saskatchewan
-	-	-	-	-	-	-	-	-	-	-	-	Yukon

Gas — Gaz				Other Fuel — Autre combustible		Total		Grand total	Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien	Foreign — Etranger	Canadian — Canadien	Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur		
,000 c. ft. — ,000 p. c.	\$	1,000 c. ft. — 1,000 p. c.	\$	\$	\$	\$	\$	\$	
45,877	13,602	-	-	13,311	-	2,560,079	630,137	3,190,216	Canada
41,593	12,088	-	-	30	-	532,608	1,550	534,158	Alberta
-	-	-	-	5,430	-	139,416	16,005	155,421	Colombie Britannique
-	-	-	-	-	-	245,008	59,760	304,768	Manitoba
1,734	693	-	-	-	-	302,066	28,254	330,320	Nouveau Brunswick
-	-	-	-	-	-	539,982	8,824	548,806	Nouvelle-Ecosse
2,550	821	-	-	2,666	-	52,868	347,970	400,838	Ontario
-	-	-	-	500	-	16,646	10,759	27,405	Ile du Pr.-Edouard.
-	-	-	-	-	-	9,217	115,073	124,290	Québec
-	-	-	-	4,485	-	717,149	41,942	759,091	Saskatchewan
-	-	-	-	200	-	5,119	-	5,119	Yukon
-	-	-	-	-	-	-	-	-	-

CANADA
BUREAU FÉDÉRAL DE LA STATISTIQUE

RECENSEMENT INDUSTRIEL, 1920

Usines Electriques Centrales du Canada

Préparé en collaboration avec la Division des Forces Hydrauliques du
Dominion, du ministère de l'Intérieur, et avec le concours de la
Commission Hydroélectrique d'Ontario, la Commission
des Eaux Courantes de Québec, la Commission de
l'Energie Electrique du Nouveau-Brunswick
et la Commission de la Force Motrice
de la Nouvelle-Ecosse

Publié par ordre de l'hon. J. A. ROBB, M.P., Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI

1923

35

RECENSEMENT INDUSTRIEL DE 1920

USINES CENTRALES ÉLECTRIQUES

Préface

Les données statistiques sur la production de l'Électricité au Canada, que contient ce rapport, ont été recueillies et compilées en vertu des dispositions de la Loi de la Statistique de 1918 (8-9 Geo. V. chap. 43). En vertu d'un arrangement intervenu entre le Bureau Fédéral de la Statistique et la Division des Forces hydrauliques du Dominion, du ministère de l'Intérieur, une étroite collaboration a présidé à ce travail; les réponses au questionnaire ont été dépouillées et le rapport pointé sous la direction de M. J. T. Johnston, directeur-adjoint, par M. Alexander Roger, ingénieur de la Division des Forces hydrauliques du Dominion, tandis que les formules ont été recueillies et le rapport compilé sous la direction de M. G. S. Wrong, B. Sc., du Bureau Fédéral de la Statistique. La Commission hydraulique d'Ontario, d'autres commissions et des ministères provinciaux ont également collaboré à cette investigation. A toutes ces administrations, le Bureau Fédéral de la Statistique présente ses sincères remerciements, ainsi qu'aux gérants des usines électriques pour leur promptitude à nous fournir les renseignements demandés.

R. H. COATS,
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,
Ottawa, 15 septembre 1922,

NOTICE SUR LES FORCES HYDRAULIQUES DU CANADA

Le Canada est très riche en ressources hydrauliques. Presque tous les grands centres industriels de ce pays se servent actuellement de l'énergie hydroélectrique et possèdent, dans leur voisinage immédiat, d'amples réserves de force hydraulique. *Plus de 90 pour cent du total de la force motrice utilisée par les usines électriques du Canada dérive de l'eau.*

Les ressources hydrauliques de la Puissance sont administrées tantôt par les autorités fédérales et tantôt par les gouvernements provinciaux. Celles qui se trouvent dans l'Alberta, la Saskatchewan, le Manitoba, le Yukon et les territoires du Nord-Ouest, sont placées sous la gestion immédiate de la division des Forces hydrauliques du Dominion, du ministère de l'Intérieur. Dans le reste du pays, les forces hydrauliques sont administrées par les organismes suivants: en Colombie Britannique, le ministère des Terres; dans l'Ontario, le ministère des Terres et Forêts; en Nouvelle-Ecosse, le commissaire des Travaux Publics et des Mines; dans l'île du Prince-Edouard, le commissaire des Travaux Publics.

Dans les provinces du Manitoba, d'Ontario, du Nouveau-Brunswick et de la Nouvelle-Ecosse, des commissions gouvernementales ont été constituées, soit pour la captation, soit pour l'achat de la force motrice, ainsi que pour la transmission et la distribution de l'énergie électrique. C'est la province d'Ontario qui a obtenu le plus grand succès dans cette direction, au moyen de sa Commission Hydroélectrique, constituée en 1905. En général, cette commission se substitue à l'action des municipalités, en se chargeant soit de produire, soit d'acheter l'énergie électrique, sous le principe coopératif. Elle agit également au nom et pour le compte du gouvernement provincial, lequel fournit les fonds nécessaires à l'entreprise. En 1949, cette commission fournissait de l'énergie électrique à 222 municipalités et exploitait 15 usines, développant au total 290,729 h.p.¹ Les Commissions de la Force Motrice du Manitoba et de la Nouvelle-Ecosse, formées en 1949, et la commission de Force Motrice Electrique du Nouveau-Brunswick créée en 1920, fonctionnent à peu près de la même manière que la commission Hydroélectrique d'Ontario. Au Manitoba, la commission achète à la cité de Winnipeg la force motrice et la transmet à Portage la Prairie et aux autres villes du sud de la province; de plus, elle exploite, à Minnedosa, une usine hydroélectrique de 250 h.p., plus une autre au pétrole, de 240 h.p. et, à Virden, une usine au pétrole de 240 h.p. La commission de la Nouvelle-Ecosse a capté, à la baie St-Margaret, deux chutes d'eau produisant ensemble 10,820 h.p. qu'elle vend en totalité à la Compagnie des Tramways et de la Force Motrice de la Nouvelle-Ecosse, pour la consommation de la cité d'Halifax et ses environs; en outre, elle a acheté et reconstruit une usine de 825 h.p. sur la rivière Mushamush, dont elle vend la production en bloc pour la consommation de Lunenburg et Riverport. La Commission du Nouveau-Brunswick vient d'achever la construction d'une usine hydroélectrique de 11,100 h.p. sur la rivière Musquash, le courant étant transmis à St-John et Moncton, où il est distribué et, de plus, cette Commission achète de la force motrice en bloc, pour la consommation de Newcastle, Douglastown et autres localités du nord-est de la province. Dans la province de Québec, il n'existe pas de commission gouvernementale de cette nature; toutefois, la Commission des Eaux Courantes de Québec travaille activement à l'étude des chutes d'eau et à la construction de réservoirs, pour le développement des forces hydrauliques.

¹ Ces chiffres ne comprennent pas les usines hydroélectriques de Cameron Falls et de Chippewa-Queenston, la première de 25,000 h.p. et la seconde d'une puissance initiale de 300,000 h.p. dont 180,000 h.p. sont déjà installés.

La Division des Forces Hydrauliques du Dominion, de concert avec les différentes organisations provinciales, a procédé à une analyse coordonnée des forces hydrauliques de la Puissance, ce qui lui a permis d'en dresser l'inventaire que nous donnons ci-dessous :

Provinces.	Force motrice utilisable en 24 heures, à 80 pour cent du débit.		Turbines installées, h.p.
	Au minimum habituel du débit, h.p.	Au maximum de débit (pendant six mois,) h.p.	
1	2	3	4
Colombie Britannique.....	1,931,142	5,013,460	304,535
Alberta.....	475,281	1,137,505	32,492
Saskatchewan.....	513,481	1,087,756	.....
Manitoba.....	3,270,491	5,769,444	83,447
Ontario.....	4,950,300	6,808,190	1,052,048
Québec.....	6,915,244	11,640,052	925,972
Nouveau-Brunswick.....	50,406	120,807	21,180
Nouvelle-Ecosse.....	20,751	128,264	35,774
Île du Prince-Edouard.....	3,000	5,270	1,933
Yukon et Territoires du Nord-Ouest.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,470,580

Les chiffres des colonnes 2 et 3 comprennent uniquement les rapides, chutes, etc., susceptibles de captation et dont le débit utilisable est bien connu, ou tout au moins, approximativement établi. Il existe, d'un littoral à l'autre, de nombreux pouvoirs d'eau, d'une puissance variable, qui n'ont pas encore été inventoriés. Néanmoins, on peut admettre sans commettre d'erreur, que le Canada possède et peut utiliser 18,225,000 h.p., développés pendant 24 heures sans interruption, tandis que ce volume s'élève, pendant au moins six mois de l'année, à 32,076,000 h.p.

Le Canada possède des turbines installées, produisant 2,762,880 h.p. Une analyse détaillée de la relation existant entre cette machinerie en action—rennant en considération les réservoirs locaux et les facteurs de charge—et les forces hydrauliques utilisables correspondantes indique, qu'à l'heure actuelle, les forces hydrauliques de la Puissance reconnues et susceptibles de captation, permettent l'installation de turbines développant 41,700,000 h.p. En d'autres termes, les turbines fonctionnant aujourd'hui ne représentent que 6.6 pour cent du total des forces utilisables. A l'appui de cette assertion, on peut citer le cas des provinces du Nouveau-Brunswick et de la Nouvelle-Ecosse; une étude approfondie des ressources hydrauliques de ces provinces a révélé la possibilité de construire, à peu de frais, des réservoirs régulateurs du débit des cours d'eau, si bien qu'en tenant compte du facteur de diversité entre les forces hydrauliques et les besoins des consommateurs, ces deux provinces possèdent respectivement 200,000 et 300,000 h.p. utilisables, au lieu des chiffres très inférieurs portés au tableau ci-dessus.

Avec 315 h.p. développés par 1,000 habitants, le Canada occupe une situation privilégiée au point de vue des ressources hydrauliques disponibles et utilisables, n'étant surpassé à cet égard que par la Norvège. L'énorme volume des forces hydrauliques restant en réserve, assure l'exploitation et le développement graduels des autres richesses naturelles du pays, tout spécialement si on les utilise concurremment avec les immenses ressources houillères de la puissance.

Ottawa, 1er septembre 1922.

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INTRODUCTION ET RESUMÉ

Le présent rapport, qui est le quatrième de la série, contient l'analyse statistique des opérations des usines électriques centrales du Canada, pendant l'année terminée le 31 décembre 1920 et présente un inventaire complet du capital, de la machinerie, etc., de cette industrie, à la date du premier janvier 1921.

Pour les fins du recensement, une usine électrique centrale est une usine vendant de l'énergie électrique. Cette définition embrasse (1) les usines produisant de l'électricité et la vendant directement aux consommateurs, (2) les usines produisant de l'électricité et la vendant à des compagnies de distribution, (3) les usines achetant du courant et en revendant aux consommateurs et enfin, toutes autres usines combinant plusieurs de ces opérations.

Dans certains cas, les usines électriques sont en même temps des fabriques de pulpe ou de papier ou bien elles se livrent à des opérations minières, etc., vendent du courant à leurs employés, aux municipalités avoisinantes ou bien aux particuliers. Dans ces cas, on s'est efforcé d'établir une division du capital, de la machinerie et des frais généraux, attribuant aussi exactement que possible à l'usine électrique ce qui lui appartient.

Les usines sont divisées en deux catégories principales, savoir: (1) les usines commerciales, c'est-à-dire celles appartenant à des particuliers, à des sociétés ou compagnies et (2) les usines municipales, c'est-à-dire celles qui sont exploitées par des commissions provinciales, des municipalités ou des institutions publiques. Ces deux catégories principales se subdivisent en (1) usines non productrices, c'est-à-dire qui achètent toute l'énergie électrique qu'elles revendent et (2) usines productrices, c'est-à-dire celles qui produisent tout ou partie du courant qu'elles vendent. Les usines productrices se subdivisent elles-mêmes en (1) usines hydrauliques, c'est-à-dire produisant l'électricité au moyen de l'eau et (2) usines à combustible, c'est-à-dire produisant l'électricité au moyen de turbines et machines à vapeur et de moteurs à combustion interne.

Trente-six des usines hydrauliques possédaient, en outre, une machinerie à vapeur susceptible de suppléer à leur installation hydraulique. Parfois, cette machinerie supplémentaire ne fonctionne que lorsque l'eau vient à manquer, mais dans la majorité des cas, elle sert de supplément à la machinerie hydraulique à de certaines heures du jour, ou à certains moments de l'année, lorsque la production est le plus intense; dans certaines usines, elle fonctionne sans interruption pendant toute l'année.

L'industrie électrique est indubitablement l'une des plus importantes du Canada. Le capital ainsi absorbé, quoique inférieur à celui placé dans les chemins de fer, dépasse cependant de beaucoup celui de toutes les autres industries principales du Canada, ainsi qu'on en jugera par l'énumération suivante:

Industries	Capital
	\$
Chemins de fer.....	2,612,000,000
Usines électriques centrales.....	448,000,000
Pulperies et papeteries.....	348,000,000
Scieries.....	235,000,000
Hauts fourneaux et aciéries.....	120,000,000
Instuments aratoires.....	111,000,000
Conserves de viande.....	84,000,000
Minoteries.....	68,000,000

Au moment actuel (septembre 1922), l'importance de cette industrie au Canada est plus grande que jamais. En effet, la grève des mineurs de charbon syndiqués des Etats-Unis, qui dure depuis le premier avril, a eu pour effet de réduire sensiblement les approvisionnements de houille et le Canada, principalement Ontario et Québec, souffriront durant l'hiver prochain d'une disette de combustible. La situation serait infiniment plus grave si l'emploi de l'eau comme force motrice, par nos usines, ne venait l'atténuer. Au cours de l'année qui nous occupe, les usines hydrauliques d'Ontario ont produit plus de *trois billions* de kilowatt-heures, celles de Québec presque *deux billions* de kilowatt-heures, et la Puissance tout entière a produit presque *cinq billions* et *trois quarts* de kilowatt-heures. Depuis lors, un certain nombre de grandes installations ont été achevées et l'on travaille avec une activité fiévreuse à la construction d'autres usines, afin de satisfaire aux besoins que l'on prévoit.

L'année 1920 vit la fusion de plusieurs usines, des usines commerciales devenir municipales, etc., et aussi quelques usines de l'ouest, généralement de peu d'importance, cessèrent leurs opérations. Toutefois, ces changements n'ont rien bouleversé et se traduisent par une augmentation effective de quatorze nouvelles usines. Les progrès de l'industrie sont beaucoup plus apparents, si l'on considère les additions faites au capital, l'augmentation des recettes et l'accroissement de la production de l'électricité.

Le capital s'est accru de \$31,761,632. soit 7 p.c., dont plus de la moitié pour les usines non productrices, soit \$16,778,165 ou environ 33 p.c., le surplus, soit \$14,983,467 ou 4 p.c. étant en augmentation du capital des usines productrices. L'ensemble de la machinerie fournissant l'énergie primaire à toutes les usines se trouve porté de 2,024,918 h.p. à 2,033,616 h.p. Ce taux d'accroissement est fort inférieur à celui du capital, mais cela s'explique dans une large mesure par la pratique assez générale de pourvoir, au moment où l'on installe les premières machines, aux besoins de machinerie additionnelle qui pourrait devenir nécessaire. Les revenus ont augmenté de \$7,851,668 ou 13.5 p.c., soit \$4,351,880 pour les usines commerciales et \$3,499,788 pour les usines municipales. Les dépenses d'exploitation ont augmenté de \$10,759,023, soit plus de 31 p.c., comme conséquence de l'avance des prix du combustible, des matières premières et de la main-d'œuvre. Dans les dépenses diverses figurent le coût de l'énergie achetée pour être revendue, cet achat s'élevant à \$12,268,978, soit \$2,349,076 ou 24 p.c. au-dessus du coût de 1919. Le nombre du personnel s'est accru de 10.7 p.c., l'augmentation la plus considérable s'étant produite dans les usines municipales non productrices. L'allongement des lignes sur poteaux s'est exclusivement produit dans les réseaux de transmission. Certains doubles emplois de lignes de distribution sur poteaux ont été éliminés lors de la fusion de deux usines, l'une commerciale, l'autre municipale, fonctionnant dans la même municipalité c'est à cela que l'on doit attribuer la légère réduction dans la longueur des lignes de distribution sur poteaux.

La diminution de la capacité de la machinerie fournissant l'énergie primaire et secondaire dans les usines principales, que révèle le tableau 1, est due au transfert de la machinerie d'une grande usine d'Ontario, qui était autrefois usine principale et qui est devenue usine auxiliaire. Cette usine avait des turbines à vapeur d'une puissance de 24,100 h.p. et des dynamos développant 18,000 k.v.a., mais puisqu'elle acheta la totalité de son courant pendant l'année, cette machinerie devint strictement auxiliaire et par conséquent l'usine changea de groupe; d'usine productrice à combustible, elle devint usine non-productrice munie d'une installation auxiliaire. L'accroissement de la machinerie fournissant l'énergie primaire, égal à 17,149 h.p., appartient entièrement aux installations hydrauliques. La diminution de la capacité de la machinerie de transformation est entièrement due à une rectification de la puissance des dynamos effectuée par les usines; quoique les chiffres indiquent une diminution de puissance, il y eut une augmentation de 21 unités en même temps qu'un accroissement de capacité. D'année en année, on acquiert des informations de plus en plus exactes et des

Les duplicata des réponses faites au questionnaire sont conservés, tant dans les usines qu'au Bureau; on peut ainsi comparer les formules d'une année à celles de l'année précédente et si une erreur apparaît la faire rectifier, ce qui rapproche les statistiques de l'exactitude la plus parfaite.

Les usines commerciales et municipales ont augmenté leur production de 265,000,000 et 132,000,000 kilowatt-heures respectivement, la totalité du courant produit ayant atteint presque six billions de kilowatt-heures, en augmentation d'environ 7 p.c.; cette production laisse de côté les usines qui ne sont pas munies des appareils nécessaires pour mesurer leur production; ce ne sont, il est vrai, que de petites usines travaillant seulement quelques heures par jour, pour les besoins de l'éclairage et, quoique possédant toutes ensemble 6 p.c. de la capacité totale des dynamos, leur production ne doit pas dépasser 1 ou 2 p.c. de la production totale. Tandis que les usines municipales sont plus nombreuses que les usines commerciales, la majorité d'entre elles sont non productrices et, par conséquent, le capital nécessaire à leur fonctionnement est considérablement inférieur à celui placé dans les usines commerciales, puisqu'il ne représente que 30.6 p.c. du total. Les usines municipales possédaient un peu plus de 25 p.c. tant de la machinerie fournissant l'énergie primaire que de celle fournissant l'énergie secondaire; elles ont contribué dans la proportion de 24.4 p.c. à l'ensemble de la production de toutes les usines. Dans les usines commerciales, 96.8 p.c. de la machinerie fournissant l'énergie primaire dans les usines principales était hydraulique, tandis qu'en 1919, cette proportion n'était que de 94.9 p.c.; dans les usines municipales, cette proportion atteignit 79.7 p.c. contre 79.6 en 1919.

Si nous considérons l'ensemble de la machinerie fournissant l'énergie primaire dans les usines principales, nous constatons que plus de 92 p.c. étaient actionnées par l'eau, mais si on y ajoute la machinerie auxiliaire des usines hydrauliques, l'apport de l'eau descend à 86 p.c. La prépondérance des forces hydrauliques sur tout autre forme de pouvoir augmentera indubitablement, en même temps que s'accroîtront les besoins d'électricité. Plus de 16 p.c. des dynamos étaient à courant direct, mais ce n'était que de petites machines, dont la capacité moyenne était d'environ 72 k.v.a.; toutes ensemble, leur force représentait à peine 1 p.c. du total.

Usines

Le tableau 2 contient une analyse détaillée des usines électriques et nous apprend que les provinces d'Ontario et de Québec possèdent 62 p.c. de la totalité de ces usines, celles d'Ontario représentant à elles seules 44 p.c. Le grand nombre des usines municipales est dû à l'existence de la Commission Hydro-électrique d'Ontario, laquelle exploite 208 usines non productrices et 15 usines productrices. D'ailleurs, le nombre d'usines ne démontre pas nécessairement l'importance d'une catégorie; au contraire, considéré séparément, il est susceptible de conduire à des conclusions fausses. C'est pourquoi ce tableau ne doit pas être étudié séparément, ses données se complétant par celles des tableaux 3, 4, et 13. Par exemple, le Manitoba possède 20 usines à combustible et seulement trois usines hydrauliques productrices et cependant, les trois usines hydrauliques développaient presque cent fois plus d'énergie électrique que les vingt usines à combustible et absorbaient un capital 28 fois plus grand. Quoique environ un cinquième des usines productrices soient munies de dynamos à courant direct, les usines et les machines sont petites, la force motrice primaire tant le plus souvent fournie par les moteurs à combustion interne, spécialement dans la Saskatchewan, où se trouve plus de la moitié de ces moteurs et où toutes les machines motrices brûlent du combustible.

Capital

Le tableau 3 est consacré au capital absorbé par cette industrie, embrassant la valeur de toutes les installations hydrauliques, terrains, bâtiments, machinerie, réseaux de transmission et de distribution, sous-stations, approvisionnements en stock, fonds de roulement, etc., cet inventaire étant établi à la fin de l'année. Ainsi qu'on l'a dit plus haut, lorsque la production de l'électricité s'exerce concurremment avec d'autres industries, telles que mines, manufactures, usines à gaz, etc., on a procédé à une division du capital, ne faisant figurer que la partie qui se rapporte à l'industrie électrique.

On remarquera que ce capital présente une augmentation de plus de \$31,000,000 sur l'année précédente, les augmentations les plus considérables dépassant \$19,000,000 dans Québec et \$11,000,000 dans Ontario.

Revenu

On peut voir par le tableau 4 que les recettes provenant de la vente d'électricité pour l'éclairage et comme force motrice, ont augmenté de \$7,851,668 ou 13 p.c., l'augmentation des recettes des usines non productrices étant de \$5,229,592 et celle des usines productrices de \$2,622,076. Presque 60 p.c. de la totalité des recettes appartiennent aux usines hydrauliques, les provinces d'Ontario, de Québec et de la Colombie Britannique se plaçant dans cet ordre; les recettes des usines à combustible figurent dans la totalité pour 13.5 p.c. et celles des usines non productrices pour 26.5 p.c.

Les moyennes des recettes, par unité de capacité, des usines génératrices indiquées au bas du tableau, sont quelque peu affectées par l'inclusion, dans les recettes des usines productrices, des revenus dérivés de la revente d'énergie achetée par certaines usines productrices à d'autres usines de même nature. Il est matériellement impossible de déterminer exactement l'importance de ces recettes, mais nous savons que l'énergie ainsi achetée a produit \$4,252,610, soit environ 9 p.c. de la totalité des recettes de toutes les usines productrices. Ces moyennes n'ont en elles-mêmes que peu de signification, mais si on les rapproche des données du tableau 13, elles acquièrent alors toute leur valeur et permettent d'intéressantes comparaisons.

Les moyennes des recettes des usines productrices, par kilowatt-heure, sont affectées par le double emploi ci-dessus mentionné, mais l'on a éliminé les recettes des usines qui n'ont pas fait connaître leur production; par conséquent, ces moyennes représentent exactement les recettes encaissées par les usines génératrices, par kilowatt-heure produit.

Laissant de côté les éléments indirects d'appréciation, la moyenne du revenu, par kilowatt-heure, des usines productrices indique clairement que la force motrice hydraulique est la moins chère. Cette force étant continue, les taux peuvent être abaissés lorsque la fourniture du courant dure près de 24 heures. C'est dans la province d'Ontario, qui possède un grand nombre d'industries approvisionnées de force motrice hydroélectrique que les taux sont le plus bas, savoir: 526 cents, ce qui est inférieur à ce que coûte le combustible seul, dans les usines à combustible. Québec, avec ses grands centres industriels et ses puissants développements hydrauliques vient ensuite, avec un taux moyen de 805 cents et la Colombie Britannique, troisième. La situation au Yukon est si différente de ce qu'elle est dans le reste du Canada qu'aucune comparaison n'est possible; dans cette région, l'énergie électrique sert principalement aux opérations minières.

Service gratuit

Tableau 5.—Ce qu'on appelle service gratuit, c'est la valeur, évaluée au prix courant, de l'électricité fournie gratuitement pour l'éclairage des édifices publics, des rues, etc. On remarquera que la plupart de ces services gratuits émanent des usines municipales, ce qui veut dire que les services municipaux

l'éclairage ne sont pas crédités de la valeur de l'électricité consommée pour les usages ci-dessus, et que le prix de ce courant devrait être ajouté aux revenus de ces usines. En ce qui concerne les usines commerciales, la situation est quelque peu différente, car dans certains cas, elles reçoivent une compensation indirecte, telle que l'exemption de taxes, ou un site gratuit.

Dépenses d'exploitation

Il résulte du tableau 6 que les dépenses ont dépassé de \$10,759,023 ou 51 p.c., celles de 1919. Les frais généraux englobent les loyers, primes d'assurances, taxes, réparations, publicité et coût du courant acheté. Ce dernier tem s'est élevé à \$12,268,978 pour le Canada et représente la totalité de la somme consacrée à l'achat d'énergie électrique par les usines de distribution, ces achats étant faits le plus souvent aux usines productrices, mais dans quelques cas, aux usines non productrices. Et ce ne furent pas seulement les usines non productrices qui achetèrent du courant des autres usines, mais plusieurs usines génératrices en achetèrent aussi pour le revendre. Les achats effectués par les usines génératrices se sont élevés à \$4,252,610 et ceux des usines non productrices ont atteint \$8,016,368, dont la masse payée par les usines d'Ontario, l'est-à-dire \$2,099,826 par les usines productrices et \$6,221,157 par les usines non productrices.

Personnel

Le tableau 7 est consacré au personnel de l'industrie, aussi bien les administrateurs, directeurs, commis, employés, qu'ouvriers et journaliers; il indique aussi le nombre du personnel dans chaque catégorie d'usines. Il est difficile de se procurer le nombre exact du personnel de cette industrie parce que nombre des plus petites usines n'ont pas un personnel à demeure.

Abonnés

Le tableau 8, qui constitue une innovation, nous renseigne sur le nombre des abonnés et autres personnes achetant l'énergie électrique. Les abonnés commerciaux comprennent tous les magasins, hôtels, ateliers, manufactures, etc., et les particuliers sont ceux qui se servent de l'électricité pour l'éclairage de leurs résidences. En ce basant sur la population du Canada en 1920, on trouve qu'il y avait un abonné par chaque 11.3 personnes, ce qui indique qu'environ une famille sur trois se servait de l'électricité pour l'éclairage ou le chauffage. Les moyennes que l'on trouvera au bas du tableau donnent le nombre des particuliers abonnés à l'électricité, par 100 habitants.

La plus grande proportion se trouve en Colombie Britannique, les provinces d'Ontario, Québec, Manitoba et Alberta suivant dans cet ordre. L'absence de force hydraulique en Saskatchewan est évidemment la raison qui place cette province derrière les autres provinces des prairies à cet égard.

Longueur des lignes sur poteaux

Tout ce qui se rapporte aux réseaux de transmission et de distribution de l'électricité par lignes soit sur poteaux, soit sur tours, fait l'objet du tableau 9. La longueur des câbles et des fils doit être plusieurs fois plus grande que ce tableau ne l'indique, car la plupart des lignes sur poteaux portent au moins deux recuits et même plus. Lorsque de puissantes usines hydrauliques envoient du courant dans des centres commerciaux situés à distance considérable, pour l'usage des manufactures ou la circulation des tramways, la longueur des lignes est relativement considérable, mais lorsqu'il s'agit d'usines employant du combustible et vendant de l'électricité surtout pour l'éclairage, ces usines locales ont qu'un minime réseau de transmission. Par exemple, dans Québec où les lignes de transmission ont une plus grande longueur que les lignes de distribution,

34 p.c. des recettes seulement provenait de l'éclairage, tandis que dans la Saskatchewan, où les réseaux de transmission n'ont que peu d'étendue, plus de 72 p.c. des recettes provenait de l'éclairage.

Machinerie

Tableau 10.—Ce tableau dresse l'inventaire de la machinerie des usines électriques, aussi bien celle qui fonctionne continuellement que celle tenue en réserve. Dans les usines où la machinerie sert en même temps à d'autres industries, on a pris soin de n'attribuer à l'usine électrique qu'une portion des machines, cette distinction ayant été faite aussi exactement que possible, sur la base de la proportion du courant vendu, par rapport au courant produit ou sur toute autre base plus équitable.

Machinerie auxiliaire

Tableau 11.—La machinerie auxiliaire, ainsi qu'on l'a déjà dit, se compose de toutes les machines à vapeur, moteurs à pétrole ou à gaz des usines hydrauliques, quoique dans une ou deux usines, ces machines ont une puissance égale à celle des installations hydrauliques et fonctionnèrent continuellement pendant l'année. Elle comprend aussi les dynamos animant cette machinerie auxiliaire. Deux usines, l'une dans Ontario l'autre dans Québec, ont acheté tout le courant qu'elles ont distribué et, de plus, avaient en réserve une machinerie auxiliaire. L'augmentation sur 1919 que l'on constate dans la machinerie auxiliaire est due à ce qu'une usine d'Ontario figurant autrefois dans le groupe des usines productrices à combustible, est maintenant portée dans le groupe des usines non productrices, avec machinerie auxiliaire.

Machinerie des usines principales

Tableau 12.—A l'exclusion des machines auxiliaires des usines hydrauliques, ce tableau embrasse la totalité de la machinerie des autres usines électriques. La réduction sur 1919 est attribuable à la modification déjà signalée dans les tableaux 1 et 10.

Quoique les turbines ne constituent que 59 p.c. du nombre total des unités fournissant l'énergie primaire et qu'elles n'existent que dans 51 p.c. des usines productrices, leur puissance égalait toutefois 92 p.c. de la force totale de l'ensemble des machines fournissant l'énergie primaire. Dans Ontario et Québec, cette proportion était d'environ 99 p.c., dans l'Alberta et les provinces maritimes, elle était sensiblement moins forte et, enfin, dans la Saskatchewan, il n'existe pas de force hydraulique affectée à la production de l'électricité. Dans cette province, la majorité des machines affectées à cette production sont des moteurs à combustion interne d'une minime capacité et n'ayant tous ensemble qu'une force moindre que les turbines et machines à vapeur. Ceci s'applique particulièrement à la Saskatchewan, et cependant, l'Alberta et le Manitoba se servent des moteurs à combustion interne dans une certaine mesure. Plus de 95 p.c. de la machinerie fournissant l'énergie primaire aux usines municipales se trouvent dans les usines municipales d'Ontario et des trois provinces des prairies; nonobstant le fait que 16 p.c. des ces usines dans Ontario sont des usines productrices, elles contenaient toutefois plus de 65 p.c. de la capacité totale des usines municipales productrices du Canada.

Classification de la machinerie des usines principales

Tableau 13.—Ce tableau groupe, par unités de force équivalente, la machinerie des usines principales, c'est-à-dire la totalité des machines, à l'exclusion des machines auxiliaires des usines hydrauliques; on y voit très clairement dans quelle usine et dans quelle province se trouvent les unités analysées. Les 74 grandes roues hydrauliques installées dans Ontario, Québec et la Colombie

Britannique représentaient plus de 53 p.c. de la capacité totale de toutes les machines fournissant l'énergie primaire; toutefois, les puissantes turbines que la Commission Hydroélectrique d'Ontario possède à Queenston n'y sont pas comprises, parce qu'elles n'ont pas fonctionné en 1920. Ces trois provinces possèdent aussi la majorité des dynamos à grande puissance.

Non seulement ce tableau établit une division de chaque genre de machine par province, mais il en répartit aussi le total entre les usines commerciales et municipales et nous démontre que les machines à grande puissance sont installées dans les usines commerciales.

Energie électrique produite

Tableau 14.—Ce tableau résume les données de l'énergie électrique produite par les usines munies des appareils nécessaires pour faire ces constatations; les usines ainsi équipées représentaient en capacité 94 p.c. du total de toutes les usines; quant aux usines incapables de fournir cette information, elles représentent 6 p.c. du total de la capacité des dynamos, mais ce ne sont que de petites usines, fournissant de l'électricité pour l'éclairage des campagnes; par conséquent, elles ne travaillent que le soir, leur production totale ne doit pas dépasser 1 ou 2 p.c. de la totalité et les calculs ne se trouvent pas sérieusement faussés par leur exclusion.

La production totale de 5,894,867,000 kilowatt-heures donne une moyenne d'environ 680 kilowatt-heures par capita pour le Canada, produits par les usines électriques; aux Etats-Unis, cette moyenné ne dépasse pas 412 kilowatt-heures; donc, les usines du Canada produisent environ 1.65 fois autant d'énergie électrique per capita que celles des Etats-Unis. La comparaison de l'électricité fournie par les forces hydrauliques per capita, est beaucoup plus favorable au Canada puisqu'elle est de 660 kilowatt-heures contre 153 kilowatt-heures per capita aux Etats-Unis. Au Canada, 97.2 p.c. du total de l'électricité produite par les usines électriques dérive de l'eau et 2.8 p.c. seulement du combustible, tandis qu'aux Etats-Unis 37.1 p.c. seulement était produit par l'eau, la production des usines à combustible étant de 62.9 p.c.

Pendant l'année 1920, la Commission Hydroélectrique d'Ontario absorba trois usines commerciales, ce qui explique la différence sensible entre 1919 et 1920 dans les données se rapportant aux usines commerciales d'Ontario brûlant du combustible; dans les autres provinces, il n'y eut pas d'augmentation sensible, mais, néanmoins, on constate un progrès continu.

La moyenne des kilowatt-heures par k.v.a. (kilo-volt-ampère) présente quelques comparaisons intéressantes. Les usines hydrauliques d'Ontario indiquent une production de 4,710 kilowatt-heures par an et par k.v.a. de capacité. Si l'on représente par 100 la capacité potentielle, ceci signifie que pendant l'année, la machinerie n'avait donné que 54 p.c. de sa capacité maximum ou bien qu'en n'utilisant que 80 p.c. du fluide, la machinerie a donné plus des deux tiers de sa capacité maximum. Et si l'on compare ces chiffres avec ceux des autres catégories on voit que cette moyenne est excessivement élevée.

Dans les provinces où l'électricité sert principalement à l'éclairage, la moyenne de production par unité fut basse, en raison de la brièveté de la période quotidienne de consommation intense.

Le développement considérable des forces hydroélectriques a une signification économique autrement importante, car cela ne signifie pas seulement la production d'une grande quantité de force motrice relativement bon marché et une grande économie de combustible, cela veut dire aussi que cette force motrice peu coûteuse fut un stimulant pour les autres industries et permet à certaines d'entre elles de réaliser des bénéfices. L'économie de combustible n'est pas non plus négligeable; étant donné que la masse des forces hydrauliques captées se trouve dans Ontario et dans Québec, cette économie est d'autant plus précieuse que le combustible aurait dû nécessairement être importé des

Etats-Unis. Pour produire au moyen de la vapeur les 4,967,674,000 de kilowatt-heures développées hydrauliquement dans ces deux provinces, il aurait fallu consumer de 11,000,000 à 15,000,000 de tonnes de charbon.

Combustible

Le tableau 15 est consacré au combustible consommé dans les usines électriques et par les chaudières des machines auxiliaires des usines hydrauliques pour la production de l'énergie électrique, mais laisse de côté le charbon consommé pour le chauffage. La machinerie auxiliaire des usines hydrauliques a consommé pour \$583,708 de combustible, ainsi réparti: Alberta \$40,000; Colombie Britannique \$41,541; Manitoba \$175,034; Nouveau-Brunswick \$9,695; Nouvelle-Ecosse \$3,854; Ontario \$298,807; île du Prince-Edouard \$245; Québec \$14,932. Les usines fonctionnant au moyen du combustible seul en ont consommé pour \$2,606,508 se répartissant ainsi: Alberta \$494,158; Colombie Britannique \$114,280; Manitoba \$129,734; Nouveau-Brunswick \$320,625; Nouvelle-Ecosse \$544,952; Ontario \$102,031; île du Prince-Edouard \$27,160; Québec \$109,358; Saskatchewan \$759,091 et Yukon \$5,119. Les usines de cette nature ont produit 164,563,000 kilowatt-heures, avec une dépense de combustible de \$2,406,861, ce qui donne une moyenne de combustible, pour l'ensemble du Canada, de 1.463 cent par kilowatt-heure.

L'Alberta, qui possède ses propres houillères et son gaz naturel, présente la moyenne la plus basse, soit .865 cent. La Colombie Britannique arrive au second rang avec 1.230 cent et la Saskatchewan, qui ne possède pas une seule usine hydraulique, est troisième avec 1.463 cent. Les moyennes des autres provinces s'établissent ainsi qu'il suit: Nouvelle-Ecosse 1.664 cent; Nouveau-Brunswick 1.892 cent; île du Prince-Edouard 2.622 cents; Québec 3.279 cents; Manitoba 4.647 cents; Ontario 5.248 cents; et Yukon 10.892 cents. Les provinces d'Ontario, du Manitoba et de Québec, qui importent leur charbon, présentent la moyenne la plus élevée du coût du combustible par kilowatt-heure, mais ces provinces produisent presque cent pour cent de leur énergie électrique au moyen de l'eau et, ainsi que l'indique la moyenne des recettes par kilowatt-heure que l'on trouvera dans le tableau 4, elles ont pu vendre leur production moins cher que les autres provinces, sauf la Colombie Britannique. Les usines de la Colombie Britannique ont produit au moyen des forces hydrauliques, plus de 98 p.c. de leur production totale.

Il résulte de l'ensemble des calculs et des moyennes présentées par les différents tableaux que nous venons d'analyser, que la grande supériorité des forces hydrauliques sur la vapeur, dans les usines électriques du Canada, est clairement démontrée, tout particulièrement dans les grandes usines.

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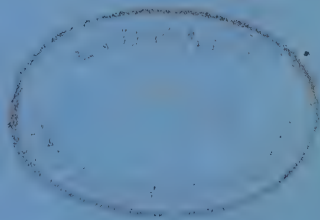
CENSUS OF INDUSTRY, 1921

Part 1—Statistics

CENTRAL ELECTRIC STATIONS
IN CANADA

(Prepared in collaboration with the Dominion Water Power Branch, Department of the Interior, with the assistance of the Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, the New Brunswick Electric Power Commission, the Nova Scotia Power Commission and the Manitoba Power Commission.)

Published by Authority of the Hon. J. A. ROBB, M.P., Minister of Trade and Commerce



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CENTRAL ELECTRIC STATIONS

Preface

The statistics in the following report on the Central Electric Station Industry of Canada have been collected and compiled by authority of the Statistics Act, 1918 (8-9 George V, Chapter 43), under the direction of Mr. G. S. Wrong, B.Sc., of the Dominion Bureau of Statistics.

The Electricity and Gas Inspection Service Branch, Department of Trade and Commerce; the Dominion Water Power Branch, Department of the Interior; the Hydro-Electric Power Commission of Ontario; and other provincial departments and commissions have assisted in the collection of the schedules. Under the co-operative arrangement between the Bureau and the Dominion Water Power Branch, the schedules and report have been checked, under the direction of Mr. J. T. Johnston, Assistant Director, by Mr. Alexander Roger, Engineer of the Dominion Water Power Branch. The cordial thanks of the Bureau are tendered to the several departments co-operating as above and to the managers of the Central Electric Stations for their promptness in supplying the data.

The report is being issued in two sections, Part 1, as above, presenting a general census and statistical digest of the industry as at January 1, 1922, and Part 2, comprising a comprehensive Directory of all public or privately owned organizations distributing electric energy for sale. While the data included in the Directory is based on the statistics of Part 1, the Directory covers conditions as on November 1, 1922. Copies of Part 1 (Statistical) of the report may be obtained upon application to the Dominion Bureau of Statistics. For Part 2 (Directory) applications should be addressed to the Director of Water Power. An annual report is also published by the Electricity and Gas Inspection Service Branch, of the Department of Trade and Commerce, giving the names of all companies registered under the Electric Inspection Act, the type of prime mover, phase, frequency and voltages of each system and the number of meters in each municipality.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, April 21, 1923.

NOTE ON CANADIAN WATER-POWERS

Canada is richly endowed with water-power resources. Practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within easy transmission distance ample reserves of water-power. *Over 90 per cent of the prime motive power of the central electric station industry of Canada is hydro power.*

The administration of the water resources of the Dominion is a divided federal and provincial responsibility. In Alberta, Saskatchewan, Manitoba, and the Yukon and Northwest Territories, control is vested in the Dominion Water Power Branch, Department of the Interior. Throughout the remainder of Canada, administration is carried out by the following respective provincial authorities: British Columbia, Department of Lands; Ontario, Department of Lands and Forests; Quebec, Department of Lands and Forests; Nova Scotia, Commissioner of Public Works and Mines; New Brunswick, Department of Lands and Mines; Prince Edward Island, Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission, formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. In 1921 the commission was delivering power to 230 municipalities and was operating in all sixteen power plants, developing a total of 315,929 horse-power (1). The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In Manitoba the Commission purchases power from the municipality of Winnipeg and transmits it to Portage la Prairie and other municipalities in the southern portion of the province, operates a 125 horse-power hydro-electric and a 240 horse-power fuel oil power plant at Minnedosa and a 240 horse-power fuel oil power plant at Virden. In Nova Scotia the commission has developed two hydro-power sites at St. Margaret's bay with a combined capacity of 10,820 horse-power the total output therefrom being sold in bulk to the Nova Scotia Tramways and Power Company for distribution in Halifax and vicinity and have purchased and reconstructed a 700 horse-power plant on the Mushamush river, the output of which is sold in bulk for distribution in Lunenburg and Riverport. The New Brunswick Commission has completed an 11,100 horse-power hydro-electric station on the Musquash river, the current being transmitted to St. John and Moncton for distribution. In addition power is purchased en bloc for transmission to Newcastle, Douglastown and other points in the north-eastern portion of the province. In the province of Quebec there is no Government commission engaged in the production or distribution of electric energy. The Quebec Streams Commission is, however, actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

(1) These figures do not include the Chippewa-Queenston hydro-electric development of the Commission, which will have an initial development of 275,000 horse-power, 220,000 horse-power of which is already installed.

The Dominion Water Power Branch, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful reanalysis and computation by the branch, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hr. power at 80 p.c. efficiency		Turbine installation h.p.
	At ordinary min. flow h.p.	At est. flow for max. dev. (dependable for 6 mos.h.p.)	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	328,977
Alberta.....	475,281	1,137,505	33,067
Saskatchewan.....	513,481	1,087,756	
Manitoba.....	3,270,491	5,769,444	134,025
Ontario.....	4,950,300	6,808,190	1,299,230
Quebec.....	6,915,244	11,640,052	1,073,883
New Brunswick.....	50,406	120,807	42,039
Nova Scotia.....	20,751	128,264	47,100
Prince Edward Island.....	3,000	5,270	2,239
Yukon and Northwest Territories.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,973,759

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. That Canada possesses 18,225,000 continuous twenty-four-hour horse-power available for exploitation, while for at least six months in the year this total rises to 32,076,000, may be regarded as a minimum statement.

The water-wheels installed throughout the Dominion total 2,973,759 horse-power. A detailed analysis of the relationship between this installed power, taking into consideration local pondage and load factors, and the corresponding available water-power, indicates that the *at present recorded available water-powers* of the Dominion will permit of a turbine installation of 41,700,000 horse-power. In other words, the present turbine installation represents only 7.1 per cent utilization of the present recorded water-power resources. In support of this statement it may be said that the detailed analyses made of the water-power resources of the provinces of New Brunswick and Nova Scotia have disclosed most advantageous reservoir and pondage facilities for regulating stream flow, and it is estimated that, allowing for the diversity factor between installed power and customers' demands, the two provinces possess respectively 200,000 and 300,000 commercial horse-power as against the lower figures given in the table.

With a water-power development of 338 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources, being surpassed on this basis by Norway alone. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, specially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, February 1, 1923.

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FIFTH ANNUAL REPORT

The fifth census of central electric stations in Canada has shown a steady growth in the industry for the past five years in capital employed, in equipment installed and in revenue earned. The industrial depression during 1921 had some effect on this industry but to a lesser degree than in the majority of other industries. The consumption of power showed a decline of five per cent from 1920, evidently from a smaller power load, but revenues from lighting and power showed increases of 13 per cent and 10 per cent respectively. The revenue from lighting is about half the total revenue (excluding the revenue from electricity interchanged between central electric stations) and since the lighting load is not greatly affected by short industrial depressions, it is a very stabilizing factor in the industry.

The extensive utilization of water-power, the improvements in generation and transmission of electric current, and the improvement in lamps, heating appliances and motors, have all contributed to the rapid growth of the industry, while lower rates and the growing familiarity of the public with the uses of electricity have been incentives to the steadily increasing demand for electric energy for lighting and power purposes. Coupled with the growth of this industry, is the growth of the manufacture and sale of electric appliances and apparatus, while to many other industries the power produced and delivered by central electric stations is of vital importance. To Ontario and Quebec where all coal is imported and where great quantities of water-power are available, it is quite obvious how important are the central electric stations, which convert this power into electricity and distribute it. The hydraulic stations in these two provinces generated 82 per cent of the total for Canada and over 84 per cent of the total hydraulically generated current.

During 1921 there were exported to the United States 885,248,604 kilowatt hours, of which over half was from stations at Niagara Falls, Ontario. The imports were small, the only point of entry of any importance being Sarnia, Ontario, where the St. Clair Tunnel Company imported from 165,000 k.w. hours to 200,000 k.w. hours per month.

There were several important installations under way and completed during the year, the largest being the Queenston station of the Ontario Hydro-Electric Power Commission. This station, however, was not included in the 1921 report as only one wheel had been installed and that one not till December. The commission's plant on the Nipigon river, with a capacity of 25,000 horse-power, was an addition over 1920 and the Laurentide Company at Grand Mere, Quebec, installed a new water turbine of 22,000 horse-power and placed in operation another of the same capacity in 1922. There were also new wheels aggregating 2,800 horse-power installed at Montmagny, Quebec, 4,700 horse-power at Sherbrooke, Quebec, and 13,800 horse-power at Winnipeg, Manitoba, besides a 6,700 horse-power steam turbine at Saskatoon, Saskatchewan, and numerous smaller installations throughout the country.

STATIONS (*Table 2*).—Central electric stations are divided into two general classes: (1) commercial, or privately operated stations, and (2) municipal, or those operated by provincial commissions, municipalities and public institutions. These two classes are subdivided into (1) non-generating, those buying all the electric energy they resell, and (2) generating, those which generate all

or a portion of the current they sell. The generating stations are again subdivided into (1) hydraulic, those using water-power as a primary power, and (2) fuel, those generating electricity by steam engines or internal combustion engines.

In five years the number of stations has increased from 666 to 857 and compared with 1920 they showed a net increase of 38, including one hydraulic and three fuel generating stations, and 34 non-generating stations. The non-generating stations under the jurisdiction of the Ontario Hydro-Electric Power Commission accounted for 21 of the increase in non-generating stations, but some of these had been commercial generating stations during 1920, also three generating stations in Manitoba were changed to non-generating stations under the Manitoba Power Commission, while that commission also opened two new non-generating stations.

The net change in ownership for the year was two less commercial stations and forty more municipal stations.

CAPITAL (Table 3).—The total capital employed in the industry, including the value of lands, buildings, equipment, materials and cash and other current assets, amounted to \$484,669,451, being an increase over 1920 of 8 per cent and an increase since 1917 of 36 per cent. By far the greater increase has been in municipal stations, which showed a total capital of \$73,185,673 in 1917 and \$157,229,624 in 1921. Over 84 per cent of this increase was accounted for by municipal stations in Ontario, although substantial increases were recorded in all provinces. The averages of capital per unit of power shown at the foot of table 3 were higher than for 1920 in the majority of cases. These averages include materials on hand, cash and other assets of all stations, both generating and non-generating, and therefore should not be used as cost data. They, however, give relative values between provinces as affected by the nature of the primary power and local conditions.

REVENUE (Table 4).—The gross revenue earned by central electric stations increased over 64 per cent in the past five years and 11 per cent over 1920. There is a certain amount of duplication of revenue included in the total revenue of \$73,376,580 on account of some power passing through two and in some cases three stations before reaching the consumer. The total cost, however, of electric energy purchased by stations during the year 1921 was \$15,104,958, leaving a net revenue received from consumers of \$58,271,622 for 5,614,132,000 kilowatt hours plus a small amount not metered. This gives an average revenue from consumers of about one cent per kilowatt hour for all purposes, but the average lighting rates, of course, would be somewhat higher, while the power rates would be considerably lower.

The averages of revenue per kilowatt hour generated shown at the foot of the table, include the net revenue of all generating stations reporting their output, *i.e.*, the gross revenue less the cost of power purchased for resale, and also include all line and transformer losses of these stations. On account of stations buying power on a horse-power basis, it is not possible to compute accurately the average revenue per kilowatt hour, but these averages are affected only by the difference between the revenue received from and the price paid for power interchanged between generating stations. There was no power purchased by generating stations in Manitoba, Prince Edward Island, Saskatchewan and Yukon, and in New Brunswick it was negligible, so that the averages for those provinces are not affected, and in the other provinces the errors would only be slight.

The large hydro-electric generating stations produce and sell power at a much lower rate than the fuel stations, so that British Columbia, Manitoba, Ontario and Quebec stations consequently show lower averages than the stations in the other provinces. The lower rates are undoubtedly the principal factor in the greater number of private subscribers or customers per hundred population in these provinces as shown in table 8, although density of population is also an important factor.

FREE SERVICE (Table 5).—Free service is the estimated value of electricity supplied for lighting streets, public buildings, etc., for which no direct recompense is received. With municipal stations this is only a matter of bookkeeping, the lighting department not being credited for its services, and with these stations the amounts could very properly be added to the revenues. It will be noted that the municipal stations reported 86 per cent of the total free service.

EXPENSES (Table 6).—Under expenses are included salaries and wages, cost of fuel, rent of offices, taxes, advertising, maintenance of buildings and equipment, all miscellaneous expenses and cost of power purchased. This last item amounted to \$15,104,958 for all stations and is included in the table under miscellaneous. Generating stations bought power from other stations at an aggregate cost of \$6,041,389, while non-generating stations paid \$9,063,569 for the electricity purchased and distributed by them.

Total expenses showed an increase over 1920 of 4 per cent, including a decrease in cost of fuel of over 5 per cent, although the straight fuel stations reported a slightly increased output. Wages increased 4 per cent over 1920, but compared with 1917 the increase was 96 per cent, with a 21 per cent increase in the number of employees.

EMPLOYEES (Table 7).—The increase of 21 per cent in the total number of employees over 1917 was entirely in municipal stations where the number increased from 3,712 to 5,595, with an increase of stations from 343 to 480, whereas the total increase over 1920 was only 21 employees.

SUBSCRIBERS (Table 8).—The number of subscribers or customers increased from 894,158 in 1920 to 973,212, an increase of over 8 per cent. It is rather remarkable that over 45 per cent of the total number of customers should be supplied with current by the non-generating stations, although the revenue of those stations was only 29 per cent of the total revenues. The customers of the municipal non-generating stations in Ontario comprised almost 70 per cent of the total customers of all non-generating stations in Canada, the British Columbia commercial non-generating stations supplied another 11 per cent of these customers, and the remaining 19 per cent were divided among the other non-generating stations throughout the provinces.

The averages at the foot of the table include both urban and rural populations and, although electric service is being extended each year into rural districts, the majority of the private subscribers are urban residents. A great number of families living in suburbs of cities, towns, etc., and in unincorporated centres use electricity for lighting and cooking, but in the population census are counted as rural. It would be a conservative estimate, however, to state that over two-thirds of all families living in centres of urban character were using electricity in 1921.

POLE LINE MILEAGE (Table 9).—The increase over 1920 in pole line mileage was 835 miles, 72 miles for transmission and 763 for distribution purposes. The growth of pole line mileage is a rough indication of the new territory supplied with electric service, but not a measure of increase of business, since additional wires are added as the load becomes too heavy for existing circuits, with no increase of pole line. The mileage also includes all conduit mileage where wires are put under ground in cities or elsewhere. As would be expected, the greater part of the mileage used for transmission purposes was in the provinces using water-power extensively as the primary power.

EQUIPMENT (Table 10).—The equipment of the hydraulic stations has been divided into two divisions: (1) the main plant equipment, which includes water turbines and wheels and dynamos driven by them (all equipment of fuel stations is considered main plant), and (2) auxiliary plant equipment, which includes all steam, gas or oil engines and dynamos driven by such engines. In several hydro-electric stations the steam equipment is not strictly speaking auxiliary, but is supplementary, and is utilized the year round. In some stations it is used each day to take care of peak loads, while in others it is used only during periods of water shortage. Of the 259 hydraulic stations there were only 35, or less than 14 per cent, equipped with auxiliary equipment with an aggregate primary power capacity of 105,062 horse-power. There were also three non-generating stations which maintained steam auxiliary equipment totalling 28,500 horse-power for use in emergencies.

The total primary power of all stations was 2,111,419, horse-power which was an increase over 1920 of 4 per cent. The greatest rate of increase during the past five years has been in the stations of Saskatchewan, where the capacity of the primary power machines has increased over 60 per cent, with an increase of 70 per cent in the number of stations. The stations are all fuel stations in that province, many of them using internal combustion engines and the majority of them being of small capacities. Ontario stations, however, show the greatest increase in primary power equipment, with an increase of 104,608 horse-power, or 13 per cent.

AUXILIARY PLANT EQUIPMENT (Table 11).—There was little change in auxiliary plant equipment from the previous year, and, as would be expected, over 88 per cent of this equipment was installed in Ontario, Quebec and British Columbia stations. Municipal stations had only 4 per cent of the auxiliary primary power, although they had 23 per cent of the hydraulic power in main plant equipment.

MAIN PLANT EQUIPMENT (Table 12).—As explained above, this table includes all equipment in fuel stations, but in hydraulic stations, only water-wheels and turbines and the dynamos driven by them. The most striking feature of the central electric station industry in Canada is the great predominance of water-power as a primary power. The water-wheels of all stations had an aggregate capacity of 1,826,357 horse-power, which was over 92 per cent of the total capacity of all prime movers, while in commercial stations the ratio was still higher, viz., 97 per cent.

The aggregate capacity of the water-wheels in stations in Ontario was almost 100 per cent of the total of all prime movers in the province, while the ratio in Quebec was 99 per cent and in British Columbia and Manitoba it was 97 per cent.

MAIN PLANT EQUIPMENT CLASSIFIED (Table 13).—The equipment shown in table 12 is classified in this table by rating groups, by provinces, and by class of stations. The table is of interest in that it shows the number of units of each group of ratings and where they are located.

The large water-wheels are in Ontario and Quebec, the majority of them being installed in commercial stations, whereas the greater number of large steam engines and turbines are in Saskatchewan and Alberta and over half of the internal combustion engines are in Saskatchewan stations.

The largest increase in water-power units installed since 1917 has been in wheels between 500 and 2,000 horse-power, which have increased 45 in number and 11,774 horse-power in capacity. The wheels rated over 15,000 horse-power increased only 3 in number but 62,000 horse-power in capacity, whereas the small wheels under 500 horse-power showed a decrease of 83, with a decrease in capacity of 37,578 horse-power. The 1917 data included auxiliary equipment, destroying to some extent the comparability of these tables, but the net change during the past five years in steam engines and turbines has been slight although the gas and oil engines have increased about 84 per cent in number and 36 per

ent in capacity. The average capacity of these internal combustion engines shows a decrease from 104 horse-power in 1917 to 76 horse-power, indicating a greater installation of small gasoline engines.

ELECTRIC ENERGY GENERATED (Table 14).—The total output of all generating stations was 5 per cent less than for the year previous. Ontario and Quebec, which have heavy power loads, both show decreases, whereas all the other provinces show increases.

As mentioned previously, all stations are not equipped with the meters necessary to measure their output, but, from the ratios shown of the capacity reporting, only a small per cent failed to meter and report their output. Over 97 per cent of the total output was generated by hydro-electric stations, which averaged 3,921 kilowatts per k.v.a. capacity, while fuel stations generated 10 per cent of the total, averaging 1,412 kilowatts per k.v.a. capacity. Considering that with a load factor of 80 per cent, the maximum output per k.v.a. capacity would be 7,000 kilowatt hours per year, the output of classes or groups of hydraulic stations averaging from 4,000 to 5,500 kilowatt hours indicates a very high utilization of equipment. Some individual stations had even higher average outputs. It is such continuous loads that allows the hydraulic stations to sell their output at such a low price compared with the fuel stations.

FUEL (Table 15).—The fuel bill showed a decrease compared with 1920 of \$65,286, although fuel stations reported a slight increase in output. The decrease was entirely in American coal, gasoline and fuel oil, Ontario stations showing a decrease in value of foreign fuel of \$116,048; Quebec, \$39,563; New Brunswick, \$18,574; British Columbia, \$14,387; Nova Scotia, \$4,877; and Prince Edward Island, \$1,248, with the other provinces showing small increases.

SUMMARY.—As stated above, over 97 per cent of the total output of all stations was generated by hydro-electric stations. The average revenue per kilowatt hour received by these stations for all electric energy sold to distributing companies, to manufacturers, to private houses, etc., was .665 cents, compared with an average revenue of 4.815 cents per kilowatt hour received by stations using steam engines as prime movers and 8.93 cents by stations using internal combustion engines.

In making these compilations, generating stations only were included. The cost of power interchanged between generating stations was deducted from the gross revenue and the net revenue was divided by the total output of the stations selected. Since the great bulk of the power purchased by generating stations was generated by hydraulic stations, this method would give quite accurate data for hydraulic stations, but would include a certain amount of profit and distributing expense on purchased power, for stations using steam and internal combustion engines. In comparing these data it must be remembered that in selling power to distributing companies and to large manufacturing companies the generating stations are saved considerable distribution expense, so that any class of station selling quantities of power to such customers can sell their output much below stations selling their output principally for domestic use. The large hydraulic stations from their very size have a more varied load than the smaller fuel stations and consequently have a steadier load throughout the day and also throughout the year. They can, therefore, use their equipment more nearly to capacity than the other stations.

It is also a more or less general practice for hydraulic stations to sell power off-peak periods during the night at lower rates than during the day, which tends to lower the average revenue per unit output. It is not so practicable for fuel stations to do this on account of their higher operating expenses.

These data, however, emphasize the fact that great quantities of electric energy are being generated by the water-powers of Canada and are being sold at comparatively low rates.

NOTE.—In tables 3, 4 and 6 certain data have been omitted and asterisks inserted. This was necessary to obscure these data pertaining to classes of stations comprising less than three companies.

CENSUS OF INDUSTRY

Table 1—Summary of Principal Data 1921-1920

	Total		Commercial Commerciales		Municipal Municipales	
	1921	1920	1921	1920	1921	1920
	1	2	3	4	5	6
Total Number of Stations	857	819	377	379	480	44
No. of Hydraulic Stations.....	259	258	189	193	70	6
No. of Fuel Stations.....	251	248	128	128	123	12
No. of Non-Generating Stations.....	347	313	60	58	287	25
Total Capital	484,669,451	448,273,642	327,439,827	311,160,342	157,229,624	137,113,30
Lands, Buildings and Fixtures.....	193,711,524	162,582,537	141,659,321	136,956,995	52,052,203	25,625,54
Equipment.....	118,184,399	148,821,478	85,167,968	79,576,463	33,016,431	69,245,01
Distribution and Transmission System..	111,858,623	80,087,667	53,906,998	48,081,243	57,951,625	32,006,42
Materials on Hands and Miscellaneous Supplies.....	9,632,639	9,630,092	4,724,239	4,601,673	4,908,400	5,028,41
Cash, Trading and Operating Accounts, etc.....	51,282,266	47,151,868	41,981,301	41,943,968	9,300,965	5,207,90
Total Revenue from Sale of Power	73,376,580	65,705,060	42,713,327	39,904,747	30,663,253	35,800,31
For Lighting Purposes.....	28,797,359	25,382,310	14,870,749	13,313,231	13,926,610	12,069,07
For all other purposes.....	44,579,221	40,322,750	27,842,578	26,591,516	16,736,643	13,731,23
Free Service (Value at Commercial Rates)	259,514	362,199	36,485	40,513	223,029	321,68
Total Operating Expenses—	47,044,503	45,100,946	24,943,355	24,693,105	22,101,148	20,408,84
Salaries and Wages.....	15,234,678	14,626,709	7,005,590	7,311,295	8,229,088	7,315,41
Fuel.....	3,034,930	3,190,216	1,453,927	1,583,388	1,571,003	1,606,82
Miscellaneous.....	28,784,895	27,284,021	16,483,838	15,797,422	12,301,057	11,486,59
Total Number of Employees	10,714	10,693	5,119	5,431	5,595	5,26
Total Mileage of Pole Lines	21,714	20,879	10,987	10,721	10,727	10,15
For Transmission.....	7,922	7,850	4,214	4,499	3,708	3,35
For Distribution.....	13,792	13,029	6,773	6,222	7,019	6,80
Total Number of Subscribers	973,212	894,158	466,235	437,672	506,977	456,48
Commercial.....	143,150	129,251	64,353		78,795	
Private Houses.....	830,062	764,907	401,880		428,182	
Total Kilowatt Hours Generated (thousands).....	5,614,132	5,894,867	4,316,272	4,456,428	1,297,860	1,438,43
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial Commerciales		Municipal Municipales	
	1921	1920	1921	1920	1921	1920
	1	2	3	4	5	6
Total Primary Power.....H.P.	1,977,857	1,897,024	1,443,533	1,415,488	534,324	481,536
Water Wheels and Turbines.....No.	604	594	453	454	151	146
H.P.	1,826,357	1,754,130	1,398,672	1,370,496	427,685	383,633
Steam Reciprocating Engines.....No.	187	196	95	102	92	94
H.P.	45,450	49,430	22,272	25,572	23,178	23,858
Steam Turbines.....No.	43	37	17	12	26	25
H.P.	90,705	80,750	19,294	16,039	71,411	64,711
Gas and Oil Engines.....No.	203	179	103	95	100	81
H.P.	15,345	12,714	3,295	3,381	12,050	9,337
Total Secondary Power.....K.V.A.	1,475,610	1,451,829	1,086,128	1,078,611	389,482	373,218
Dynamos A.C.....No.	841	817	506	506	335	311
K.V.A.	1,464,022	1,439,937	1,078,515	1,070,760	385,507	369,177
Dynamos D.C.....No.	172	165	137	131	35	34
K.W.	11,588	11,892	7,613	7,851	3,975	4,041

Tableau 1—Résumé comparatif des données principales, 1921-1920

Generating Productrices				Non-Generating Non-productrices				Per Cent of Column 1. Pour-cent. de la 1ère col.				
1921		1920		1921		1920		Com- mer- ciales 1921	Mu- nici- pales 1921	Gen- erat. Prod. 1921	Non Gen Non prod. 1921	
7	8	9	10	11	12	13	14					
510 259 251 —	506 258 248 —	347 — — 347	313 — — 313	44-0 73-0 51-0 17-3	56-0 27-0 49-0 82-7	59-6 100-0 100-0 —	40-4 — — 100-0	Nombre total des usines Nombre des usines hydrauliques Nombre des usines à combustibles Nombre des usines non productives.				
410,382,619 185,114,974 113,220,061 63,660,328	380,372,831 152,878,448 121,248,398 59,847,380	74,286,832 8,596,550 4,964,338 48,198,295	67,900,811 9,704,089 27,573,080 20,240,287	67-6 73-1 72-1 48-2	32-4 26-9 27-9 51-8	84-7 95-6 95-8 56-9	15-3 4-4 4-2 43-1	Total des capitaux Terrains bâtiments et installations Machinerie Réseaux de distribution et de transm.				
5,598,245	4,615,346	4,034,594	5,014,746	49-0	51-0	58-1	41-9	Matières premières et approvisionnement.				
42,789,011	41,783,259	8,493,255	5,368,609	81-9	18-1	83-4	16-6	Fonds de roulement, caisse, etc.				
52,445,929 16,230,893 36,215,036	48,042,642 15,743,155 32,299,487	20,930,651 12,566,466 8,364,185	17,662,418 9,639,155 8,023,263	58-2 51-6 62-5	41-8 48-4 37-5	71-5 56-4 81-2	28-5 43-6 18-8	Total des rec. prod. par l'elec., vendue Pour l'éclairage. Pour tous autres usages.				
203,784	306,508	55,730	55,691	14-1	85-9	78-5	21-5	Serv. gratuit (val. au prix du commerce)				
29,389,443 9,019,494 3,017-272 17,352,677	29,654,712 9,202,207 3,190,216 17,292,289	17,655,060 6,215,184 7,658 11,432,218	15,416,234 5,424,502 — 9,991,732	53-6 46-0 48-1 57-3	47-0 54-0 51-9 42-7	62-5 59-2 99-7 60-3	27-5 40-8 00-3 39-7	Total des dépenses d'exploitation Traitements, appoint. et salaires Combustible. Dépenses diverses				
6,426	6,677	4,288	4,016	47-8	52-2	60-0	40-0	Nombre total du personnel.				
13,460 6,640 6,820	13,651 6,794 6,857	8,254 1,282 6,972	7,228 — 6,172	50-6 53-2 49-1	49-4 46-8 50-9	62-0 83-8 49-5	38-0 16-2 50-5	Long. en milles des lignes sur poteaux De transmission De distribution				
531,643 66,052 465,591	504,026 — —	441,569 77,098 364,471	390,132 — —	47-9 45-0 48-4	52-1 55-0 51-6	54-6 46-1 56-1	45-4 53-9 43-9	Nombre total des abonnés des usines Commerçants Particuliers				
5,614,132	5,894,867	—	—	76-9	23-1	100-0	00-0	Total des kilowatt-heures produits (milliers)				
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)												
Per Cent of Columns 1 & 2				Per Cent of Columns 3, 4, 5, & 6				Total Power Equipment in Auxiliary Plants				
Pourc. des col. 1 et 2				Pourc. des col. 3, 4, 5 et 6				Machines des usines auxiliaires				
Commercial		Municipal		Commercial		Municipal						
1921	1920	1921	1920	1921	1920	1921	1920	1921		1920		
7	8	9	10	11	12	13	14	15		16		
73-0	74-6	27-0	25-4	100-0	100-0	100-0	100-0	133,562		136,592		
75-0	76-4	25-0	23-6	—	—	—	—	—		—		
76-6	78-1	23-4	21-9	96-9	96-8	80-0	79-7	—		—		
50-8	52-0	49-2	48-0	—	—	—	—	34		34		
49-0	51-7	51-0	48-3	01-6	—	4-3	4-9	13,436		12,771		
39-5	32-4	60-5	67-6	—	—	—	—	26		26		
21-3	19-8	78-7	80-2	01-3	—	13-4	13-4	119,600		123,600		
50-7	53-1	49-3	46-9	—	—	—	—	5		3		
21-5	26-6	78-5	73-4	00-2	—	2-3	2-0	526		221		
Per cent of secondary Power Col. 3, 4, 5 & 6												
73-6	74-3	26-4	25-7	100-0	—	100-0	—	107,490		106,462		
30-2	61-9	39-8	38-1	—	—	—	—	52		47		
73-7	74-4	26-3	25-6	99-3	—	99-0	98-9	1,073,340		106,462		
9-7	79-9	20-3	20-1	—	—	—	—	1		—		
15-7	66-0	34-3	34-0	0-7	—	1-0	1-1	150		—		
Total, force motrice primaire, H.P. Turbines et roues hydrauliques nomb. H.P. Machines à vapeur..... nomb. H.P. Turbines à vapeur..... nomb. H.P. Moteur à gaz et à pétrole..... nomb. H.P.												
Total, force motrice secondaire K.V.A. Dynamos, C.A..... nomb. K.V.A. Dynamos, C.D..... nomb. K.W.												

Table 2—Stations, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
	1	2	3	4	5	6
Total Number of Stations	557	59	61	34	29	
Per cent of Total for Canada.....	100	6.88	7.12	3.97	3.38	5.60
Commercial Stations	377	30	37	10	20	27
Non-Generating.....	60	4	5	2	3	4
Generating.....	317	26	32	8	17	23
Hydraulic.....	189	3	22	2	6	8
Fuel.....	128	23	10	6	11	15
Municipal Stations	480	29	24	24	9	21
Non-Generating.....	287	4	5	9	2	4
Generating.....	193	25	19	15	7	17
Hydraulic.....	70	8	8	2	2	8
Fuel.....	123	25	11	13	5	9
Total Number of Non-Generating Stations	347	8	10	11	5	8
Total Number of Generating Stations	510	51	51	23	24	40
Hydraulic Stations.....	259	3	30	4	8	16
Fuel Stations.....	251	48	21	19	16	24
With Water Wheels and Turbines only.....	224	2	24	1	7	14
With Water Wheels and Turbines and Fuel Auxiliary Equipment.....	35	1	6	3	1	2
With Steam Engines only.....	103	30	11	9	9	15
With Steam Turbines only.....	10	—	1	—	1	3
With Gas or Oil Engines only.....	119	11	9	10	4	2
With both Steam Engines and Turbines.....	11	3	—	—	1	2
With both Steam or Gas or Oil Engines.....	7	3	—	—	1	1
With both Steam Turbines and Gas or Oil Engines.....	1	1	—	—	—	—
With Alternating Current Dynamos only.....	403	38	44	16	18	35
With Direct Current Dynamos only.....	99	11	7	7	5	4
With both Alternating and Direct Current Dynamos.....	8	2	—	—	1	1

Table 3—Capital, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Capital	484,669,451	13,150,843	45,023,886	22,010,612	4,524,647	5,451,899
Per cent of Total for Canada.....	100	2.71	9.30	4.54	.93	1.13
Lands, Buildings and Fixtures.....	193,711,524	4,270,405	19,876,667	6,613,949	1,689,465	1,296,194
Equipment.....	118,184,399	5,230,014	9,267,769	4,644,751	1,348,249	1,927,532
Distribution and Transmission Lines.....	111,858,623	3,113,793	12,447,980	9,421,702	1,020,633	2,002,882
Materials and Supplies.....	9,632,639	187,463	1,059,851	807,208	148,531	56,623
Cash, Trading Accounts, Etc.....	51,282,266	349,528	2,371,619	523,002	311,769	168,668
Total Capital in Commercial Stations	327,439,827	6,172,726	42,321,603	7,519,484	3,979,594	4,449,787
Non-Generating.....	24,701,749	65,082	6,680,536	***	23,032	294,324
Generating.....	302,738,078	6,107,644	35,641,067	***	3,956,562	4,155,473
Hydraulic.....	291,764,670	***	35,523,165	***	1,336,802	506,392
Fuel.....	10,973,408	***	117,902	44,039	2,619,760	3,649,081
Total Capital in Municipal Stations	157,229,624	6,978,117	2,702,283	11,491,128	545,053	1,002,102
Non-Generating.....	49,585,083	15,829	279,240	1,852,426	32,000	46,980
Generating.....	107,644,541	6,962,288	2,423,043	12,638,702	513,053	955,232
Hydraulic.....	89,619,090	—	1,494,281	12,155,420	197,616	423,281
Fuel.....	18,025,451	6,962,288	9,28,762	483,282	315,437	531,941
Total Capital in Non-Generating Stations	74,286,832	80,911	6,959,776	***	55,032	341,204
Total Capital in Generating Stations	410,382,619	13,069,932	38,061,110	***	1,469,615	5,110,695
Hydraulic.....	381,383,760	***	37,017,446	***	1,534,418	929,673
Fuel.....	28,998,859	***	1,046,664	***	2,935,197	4,181,022
Average per H. P. of Primary Power	245	164	211	258	215	218
Average per H. P. including Auxiliary Equipment	230	160	187	225	212	214
Average per K.V.A. of Dynamo Capacity	328	215	323	319	304	275
Average per K.V.A. including Auxiliary Equipment	306	208	282	277	304	270

Tableau 2—Usines, 1921

Ontario	Prince Edward Is. — Ile du Pr.- Edouard	Quebec	Saskatchewan	Yukon	
7	8	9	10	11	
377	11	145	89	4	Nombre total des usines.
43-99	1-28	16-92	10-39	0-47	Pourcentage dans chaque province.
91	10	105	43	4	Usines commerciales.
16	1	24	—	1	Non productrices.
75	9	81	43	3	Productrices.
66	7	74	—	1	Hydrauliques.
9	2	7	43	2	A combustible.
286	1	40	46	—	Usines municipales.
242	—	20	1	—	Non productrices.
44	1	20	45	—	Productrices.
34	—	16	—	—	Hydrauliques.
10	1	4	45	—	A combustible.
258	1	44	1	1	Nombre total des usines non productrices.
119	10	101	98	3	Nombre total des usines productrices.
100	7	90	—	1	Hydrauliques.
19	3	11	88	2	A combustible.
89	5	81	—	1	Avec roues et turbines hydrauliques seulement.
11	2	9	—	—	Avec roues et turbines hydrauliques, plus usines auxiliaires.
13	—	4	11	1	Avec machines à vapeur seulement.
—	—	1	3	1	Avec turbines à vapeur seulement.
6	1	5	71	—	Avec moteurs à gaz ou à pétrole seulement.
—	—	1	3	—	Avec machines et turbines à vapeur à la fois.
—	2	—	—	—	Avec machines à vapeur à gaz et à pétrole.
—	—	—	—	—	Avec turbines à vapeur et moteurs à gaz et à pétrole.
105	8	92	45	2	Avec dynamos à courant alternatif seulement.
14	2	6	42	1	Avec dynamos à courant direct seulement.
—	—	3	1	—	Avec dynamos à courant alternatif et direct.

Tableau 3—Capitaux, 1921

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
218,416,285	502,488	166,426,988	7,892,735	1,269,068	Total des capitaux
45-06	—10	34-34	1-63	—26	Pourcentage dans chaque province.
83,426,456	38,400	74,870,914	980,898	648,536	Terrains, bâtiments et installations
43,559,627	295,209	47,603,455	4,011,302	296,491	Machinerie
62,354,535	114,070	18,742,667	2,536,898	97,463	Réseaux de transmission et de distribution
3,794,604	26,015	3,327,783	172,385	52,176	Matières premières et approvisionnements
25,281,063	28,794	21,882,169	191,252	174,402	Fonds de roulement, caisse, etc.
100,907,181	456,278	159,870,192	493,904	1,269,068	Total des capitaux dans les usines commerciales
11,172,404	***	5,720,507	—	***	Non productrices
89,734,777	***	154,149,685	493,904	***	Productrices
89,583,341	***	151,433,484	—	***	Hydrauliques.
151,436	***	2,716,201	493,904	***	A combustible
117,509,104	46,210	6,556,796	7,398,831	—	Total des capitaux dans les usines municipales
46,578,242	—	746,012	34,454	—	Non Productrices
70,930,862	46,210	5,810,784	7,364,377	—	Productrices
70,715,095	—	4,633,397	—	—	Hydrauliques
215,767	46,210	1,177,387	7,364,377	—	A combustible
57,750,646	***	6,466,519	34,454	***	Total des capitaux dans les usines non productrices
160,665,639	***	159,960,469	7,558,281	***	Total des capitaux dans les usines productrices
160,298,436	***	156,066,881	—	***	Hydrauliques
367,203	***	3,893,588	7,858,281	***	A combustible
261	283	251	155	***	Moyenne par H.P. de la machinerie d'énergie primaire
246	273	240	155	***	Moyenne par H.P. y compris machinerie auxiliaire
356	340	329	177	***	Moyenne par k.v.a. de la capacité des dynamos
329	340	314	177	***	Moyenne par k.v.a. y compris machinerie auxiliaire

Table 4—Revenue, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Revenue from Sale of Power.....	73,376,580	3,030,117	7,108,408	3,148,012	1,222,781	1,749,025
Per Cent of Total for Canada.....	100	4.13	9.69	4.29	1.67	2.38
For Lighting Purposes.....	28,797,359	2,025,853	3,229,765	2,162,896	839,911	1,326,934
For all other Purposes.....	44,579,221	1,004,264	3,878,643	985,116	382,870	422,091
Revenue of Commercial Stations.....	42,713,327	760,207	6,271,313	1,203,574	1,093,717	1,451,177
Non Generating.....	7,878,732	12,727	2,485,131	***	9,249	95,987
Generating.....	34,834,595	747,480	3,786,182	***	1,084,468	1,355,190
Hydraulic.....	30,975,527	***	3,734,366	***	210,588	103,033
Fuel.....	3,859,068	***	51,816	22,994	873,880	1,252,157
Revenue of Municipal Stations.....	30,663,253	2,269,910	837,095	1,944,438	129,064	297,848
Non Generating.....	13,051,919	32,774	138,391	250,415	11,600	10,040
Generating.....	17,611,334	2,237,136	698,704	1,694,023	117,464	287,808
Hydraulic.....	11,898,821	—	364,110	1,505,712	23,359	65,878
Fuel.....	5,712,513	2,237,136	334,594	188,311	94,105	221,930
Revenue of Non Generating Stations.....	20,930,651	45,501	2,623,522	***	20,849	106,027
Revenue of Generating Stations.....	52,445,929	2,984,616	4,484,886	***	1,201,932	1,642,998
Hydraulic.....	42,874,348	—	4,098,476	***	233,947	168,911
Fuel.....	9,571,581	***	386,410	***	967,985	1,474,087
Average Revenue of Generating Stations per H.P. of Primary Power.....	26.52	37.26	20.98	32.64	57.10	65.54
Average Revenue of Generating Stations per H.P. in Main and Aux. Plants.....	24.84	36.24	18.66	28.52	56.30	64.58
Average Revenue of Generating Stations per K.V.A. of Dynamo Capacity.....	35.54	48.85	32.15	40.35	80.66	82.93
Average Revenue of Generating Stations per K.V.A. in Main and Aux. Plants.....	33.13	47.29	28.10	35.01	80.66	81.36
Average Revenue per K.W. hour of Gene- rating Stations Reporting Output.....	.795	2.285	.787	1.018	3.921	4.234

Table 5—Free Service, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Estimated Value.....	259,514	11,419	61,066	2,815	31,614	12,764
Per Cent of Total for Canada.....	100	4.40	23.53	1.08	12.18	4.92
Commercial Stations.....	36,485	5,469	6,561	39	1,039	200
Non Generating.....	1,176	—	1,089	—	—	—
Generating.....	35,309	5,469	5,472	39	1,039	200
Hydraulic.....	27,484	—	4,200	—	520	—
Fuel.....	7,825	5,469	1,272	39	519	200
Municipal Stations.....	223,029	5,950	54,505	2,776	30,575	12,564
Non Generating.....	54,554	1,153	6,440	—	350	1,350
Generating.....	168,475	4,797	48,065	2,776	30,225	11,214
Hydraulic.....	98,284	—	26,603	—	25,000	2,356
Fuel.....	70,191	4,797	21,462	2,776	5,225	8,858
Value Free Service in Non-Generating Stations.....	55,730	1,153	7,529	—	350	1,350
Value Free Service in Generating Stations.....	203,784	10,266	53,537	2,815	31,264	11,414
Hydraulic.....	125,768	—	30,803	—	25,520	2,356
Fuel.....	78,016	10,266	22,734	2,815	5,744	9,058

Tableau 4—Recettes, 1921

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
35,147,501	104,309	19,337,581	2,435,037	93,809	Total des recettes produits par l'électricité vendue
47-90	14	26-35	3-32	13	Pourcentage dans chaque province
10,307,642	90,636	7,029,102	1,726,412	58,208	Pour l'éclairage
24,839,859	13,673	12,308,479	708,625	35,601	Pour tous autres usages.
13,319,655	85,074	18,255,260	179,541	93,809	Recettes des usines commerciales
3,665,568	***	1,463,901	-	***	Non productrices
9,654,087	***	16,791,359	179,541	***	Productrices
9,593,851	***	15,751,905	-	***	Hydrauliques
60,236	***	1,039,434	179,541	***	A combustible
21,827,846	19,235	1,082,321	2,255,496	-	Recettes des usines municipales
12,374,549	***	222,097	12,053	-	Non productrices
9,453,297	19,235	860,224	2,243,443	-	Productrices
9,383,158	***	556,604	-	-	Hydrauliques
70,139	19,235	303,620	2,243,443	-	A combustible
16,040,117	***	1,685,998	12,053	***	Recettes des usines non productrices
19,107,354	***	17,651,583	2,422,984	***	Recettes des usines productrices
18,977,009	***	16,308,509	-	***	Hydrauliques
130,375	***	1,343,074	2,422,984	***	A combustible
23-09	58-60	26-66	47-59	***	Moy. des recettes des usines prod. par h. p. de machinerie primaire
21-49	56-50	25-51	47-59	***	Moy. des recettes des usines prod. par h.p. des usines principales et auxiliaires
31-15	70-33	34-91	54-37	***	Moy. des recettes des usines prod. par k.v.a. de la capac. des dynamos.
28-79	70-33	33-32	54-37	***	Moy. des recettes des usines prod. k.v.a. des usines princip. et auxiliaires
532	7-891	850	4-290	***	Moy. du revenu par k.w. heure des stations génératrices dont la prod. est connue.

Tableau 5—Service gratuit, 1921

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
38,273	-	76,988	24,575	-	Valeur estimative totale
14-75	-	29-67	9-47	-	Pourcentage dans chaque province
17,192	-	5,719	266	-	Usines commerciales
12	-	75	-	-	Non productrices
17,180	-	5,644	266	-	Productrices
17,170	-	5,594	-	-	Hydrauliques
10	-	50	266	-	A combustible
21,081	-	71,269	24,309	-	Usines municipales
11,061	-	32,159	2,041	-	Non productrices
10,020	-	39,110	22,268	-	Productrices
6,815	-	37,510	-	-	Hydrauliques
3,205	-	1,600	22,268	-	A combustible
11,073	-	32,234	2,041	-	Usines non productrices
27,200	-	44,754	22,534	-	Usines productrices
23,985	-	43,104	-	-	Hydrauliques
3,215	-	1,650	22,534	-	A combustible

CENSUS OF INDUSTRY

Table 6—Expenses, 1921

	Canada	Alberta	British Columbia Colombie- Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
Total Expenses	47,044,503	1,882,523	3,441,378	2,125,641	825,965	1,547,964
Per Cent of Total for Canada.....	100	4.00	7.32	4.52	1.76	3.29
Salaries and Wages.....	15,234,678	746,189	1,213,754	1,181,561	256,678	476,104
Fuel.....	3,024,930	515,335	146,608	306,787	310,100	553,613
Miscellaneous.....	28,784,895	620,999	2,081,016	637,293	259,187	518,247
Total for Commercial Stations	24,943,355	461,289	2,951,408	731,135	722,803	1,268,604
Salaries and Wages.....	7,003,590	229,598	963,088	261,303	218,861	396,568
Fuel.....	1,453,927	123,845	35,770	213,158	268,970	465,000
Miscellaneous.....	16,483,838	107,846	1,952,550	256,674	234,972	407,036
Non Generating stations.....	6,183,585	7,573	1,535,362	68,502	8,958	87,917
Generating stations.....	18,759,770	453,716	1,416,046	***	713,845	1,180,687
Hydraulic stations.....	15,551,147	***	1,370,880	***	117,513	74,506
Fuel stations.....	3,208,623	***	45,166	***	596,332	1,106,181
Total for Municipal Stations	22,101,148	1,421,234	489,970	1,394,506	103,162	279,360
Salaries and Wages.....	8,229,088	516,591	250,666	920,258	37,817	79,536
Fuel.....	1,571,003	391,490	110,838	93,629	41,130	88,613
Miscellaneous.....	12,301,057	513,153	128,466	380,619	24,215	111,211
Non Generating stations.....	11,471,475	30,278	63,717	414,571	11,473	9,673
Generating.....	10,629,673	1,390,956	426,253	979,935	91,689	269,687
Hydraulic stations.....	6,586,670	-	196,128	791,144	15,596	51,572
Fuel... stations.....	4,043,003	1,390,956	230,125	188,791	76,093	218,115
Total Expenses for Non Generating Sta- tions	17,655,060	37,851	1,599,079	***	20,431	97,590
Total Expenses for Generating Stations ..	29,389,443	1,844,672	1,842,299	***	805,534	1,450,374
Hydraulic stations.....	22,137,817	***	1,567,008	***	133,109	126,078
Fuel stations.....	7,251,626	***	275,291	***	672,425	1,324,296

Table 7—Employees, 1921

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
Total Number of Persons Employed	10,714	441	731	742	257	385
Per Cent of Total for Canada.....	100.00	4.12	6.82	6.93	2.40	3.59
Officers, Superintendents, etc.....	1,338	34	62	43	45	56
Clerks, other Salaried Employees.....	3,282	88	280	196	47	83
Employees on Wages.....	6,094	319	389	503	165	246
Total Employees in Commercial Stations ..	5,119	140	532	168	211	305
Non Generating.....	983	4	310	6	14	17
Generating.....	4,136	136	242	162	197	288
Hydraulic.....	3,399	57	222	155	63	44
Fuel.....	737	79	20	7	134	244
Total Employees in Municipal Stations ...	5,595	301	179	574	46	80
Non Generating.....	3,305	4	15	132	4	3
Generating.....	2,290	297	164	442	42	77
Hydraulic.....	1,333	-	96	397	18	26
Fuel.....	957	297	68	45	24	51
Total Employees in Non Generating Sta- tions	4,288	8	325	138	18	20
Total Employees in Generating Stations —	6,426	433	406	604	239	365
Hydraulic.....	4,732	57	318	552	81	70
Fuel.....	1,694	376	88	52	158	295

Tableau 6—Dépenses, 1921

Ontario	Prince Edward Is. Ile du Prince- Edouard	Quebec	Saskatchewan	Yukon	
23,270,442 49.46	84,300 0.18	11,987,782 25.48	1,803,692 3.83	74,816 0.16	Total des dépenses Pourcentage dans chaque province
7,642,306	32,214	3,016,295	634,490	35,087	Traitements, appointements et salaires
257,820	30,458	86,160	812,835	5,214	Combustible
15,370,316	21,628	8,885,327	356,367	34,515	Dépenses diverses
7,176,822 2,089,345 209,028 4,878,449	68,275 27,389 23,511 17,375	11,318,694 2,736,870 30,080 8,551,744	169,509 47,481 79,351 42,677	74,816 35,087 5,214 34,515	Total pour les usines commerciales Traitements, appointements et salaires. Combustible Dépenses diverses
3,352,015	***	1,097,066	—	***	Usines non productrices
3,824,807	***	10,221,628	169,509	***	Usines productrices
3,741,328	***	9,383,071	—	***	Usines hydrauliques
83,479	***	838,557	169,509	***	Usines à combustible
16,093,620 5,552,961 48,792 10,491,867	16,025 4,825 6,947 4,253	669,088 279,425 56,080 333,583	1,634,183 587,009 733,484 313,690	— — — —	Total pour les usines municipales Traitements, appointements et salaires Combustible Dépenses diverses
10,743,477	—	187,966	10,320	—	Usines non productrices
5,350,143	16,025	481,122	1,623,863	—	Usines productrices
5,262,574	—	269,656	—	—	Usines hydrauliques
87,569	16,025	211,466	1,623,863	—	Usines à combustible
14,095,492	***	1,285,032	10,320	***	Total des dépenses pour les usines non pro- ductrices
9,174,950 9,003,902 171,048	*** *** ***	10,702,750 9,652,727 1,050,023	1,793,372 — 1,793,372	*** *** ***	Total des dépenses pour les usines produc- trices Usines hydrauliques Usines à combustible

Tableau 7—Personnel, 1921

Ontario	Prince Edward Is. Ile du Prince- Edouard	Quebec	Saskatchewan	Yukon	
5,309 49.55	31 0.29	2,374 22.16	422 3.94	22 0.20	Total du personnel occupé Pourcentage dans chaque province
815	9	223	43	8	Administrateurs, directeurs, etc.
1,613	4	870	99	2	Commis et tous employés des bureaux
2,881	18	1,281	280	12	Ouvriers et journaliers
1,498 457 1,041 1,026 15	26 — 26 7 19	2,145 169 1,976 1,815 161	52 — 52 — 52	22 6 16 10 6	Personnel des usines commerciales Non productrices Productrices Hydrauliques A combustible
3,811 3,097 714 688 26	5 — 5 — 5	229 48 181 108 73	370 2 363 — 368	— — — — —	Personnel des usines municipales Non productrices Productrices Hydrauliques A combustible
3,554	—	217	2	6	Total du personnel des usines non produc- trices
1,755 1,714 41	31 7 24	2,157 1,923 234	420 — 420	16 10 6	Total du personnel des usines productrices Hydrauliques A combustible

Table 8—Number of Subscribers, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Number of Subscribers	973,212	52,070	89,806	68,721	20,979	35,244
Per cent of Total for Canada	100	5.35	9.23	7.06	2.16	3.62
Commercial	143,150	5,250	15,995	11,312	5,445	7,410
Private	830,062	46,820	73,811	57,409	15,534	27,834
Total Number of Subscribers Commercial Stations	466,235	8,411	71,929	22,392	17,710	27,349
Non Generating	114,607	279	50,774	3,764	348	2,710
Generating	351,628	8,132	21,155	18,628	17,362	24,639
Hydraulic	285,578	2,303	20,321	18,398	2,411	2,820
Fuel	66,050	5,829	834	230	14,951	22,319
Total Number of Subscribers Municipal Stations	506,977	43,659	17,877	46,329	3,269	7,895
Non Generating	326,962	858	4,933	3,146	362	469
Generating	180,015	42,801	12,944	43,183	2,907	7,426
Hydraulic	76,666	—	6,140	39,715	782	2,567
Fuel	103,349	42,801	6,804	3,468	2,125	4,859
Total Number of Subscribers Non-Gener- ating Stations	441,569	1,137	55,707	6,910	710	3,179
Total Number of Subscribers Generating Stations	531,643	50,933	34,099	61,811	20,269	32,065
Hydraulic	362,244	2,303	26,461	58,113	3,193	4,887
Fuel	169,399	48,630	7,638	3,698	17,076	27,178
Average Number of Private Subscribers per 100 of Population	9.44	7.96	14.07	9.41	4.00	5.31

Table 9—Pole Line Mileage, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Pole Line Mileage	21,714	983	2,790	1,327	536	801
Per Cent of Total for Canada	100	4.53	12.85	61.11	2.47	3.69
For Transmission	7,922	208	866	324	74	159
For Distribution	13,792	775	1,924	1,003	462	642
Total Pole Line Mileage—Commercial Sta- tions	10,987	286	2,335	584	425	609
Non Generating	3,256	16	1,260	93	26	63
Generating	7,731	270	1,075	491	399	546
Hydraulic	6,519	146	1,045	482	109	122
Fuel	1,212	124	30	9	290	424
Total Pole Line Mileage—Municipal Sta- tions	10,727	697	455	743	111	192
Non Generating	4,998	15	105	235	16	17
Generating	5,729	682	350	508	95	175
Hydraulic	4,035	—	184	442	42	70
Fuel	1,694	682	166	66	53	105
Total Pole Mileage in Non Generating Stations	8,254	31	1,365	328	42	80
Total Pole Line Mileage in Generating Stations	13,460	952	1,425	999	494	721
Hydraulic	10,554	146	1,229	924	151	192
Fuel	2,906	806	196	75	343	529

Tableau 8—Abonnés, 1921

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
401,954	3,282	264,441	36,306	409	Nombre d'abonnés
41,30	34	27,17	3,73	04	Pourcentage du total pour le Canada
71,297	481	18,859	6,952	149	Commerçants
330,657	2,801	245,582	29,354	260	Particuliers
82,243	2,817	229,549	3,426	400	Nombre total des abonnés des usines commerciales
43,727	31	12,694	—	280	Non productrices
38,516	2,786	216,855	3,426	129	Productrices
37,936	576	201,309	—	4	Hydrauliques
580	2,210	15,546	3,426	125	A combustible
319,711	465	34,892	32,880	—	Nombre total des abonnés des usines municipales
307,100	—	9,852	242	—	Non productrices
12,611	465	25,040	32,638	—	Productrices
10,715	—	16,747	—	—	Hydrauliques
1,896	465	8,293	32,638	—	A combustible
350,827	31	22,546	242	280	Nombre total des abonnés des usines non productrices
51,127	3,251	241,895	36,064	129	Nombre total des abonnés des usines productrices
48,651	576	218,056	—	4	Hydrauliques
2,476	2,675	23,839	36,064	125	A combustible
11.27	3.16	10.40	3.88	6.25	Nombre moy. d'abonnés (éclairage des maisons) par 100 habitants

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1921

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
10,126	65	4,409	617	60	Longueur totale, en milles des lignes sur poteaux
46.63	0.30	20.30	2.84	0.28	Pourcentage dans chaque province.
4,115	21	2,055	51	49	Pour la transmission.
6,011	44	2,354	566	11	Pour la distribution
2,672	56	3,866	94	60	Pour le service des usines commerciales
907	9	876	—	6	Non productives
1,765	47	2,990	94	54	Productives
1,750	34	2,780	—	51	Hydrauliques
15	13	210	94	3	Combustible
7,454	9	543	522	—	Pour le service des usines municipales
4,407	—	196	7	—	Non productives
3,047	9	347	516	—	Productives
2,997	—	300	—	—	Hydrauliques
50	9	47	516	—	A combustible
5,314	9	1,072	7	6	Pour le service des usines non productrices
4,812	56	3,337	610	54	Pour le service des usines productrices
4,747	34	3,080	—	51	Hydrauliques
65	22	257	610	2	A combustible

CENSUS OF INDUSTRY

Table 10—Equipment, 1921
TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power.....H.P.....	2,111,419	82,356	240,299	97,708	21,348	25,410
Per Cent of Total for Canada.....	100	3.90	11.38	4.63	1.01	1.20
Water Wheels and Turbines.....No.....	604	13	54	18	18	17
Total Capacity.....H.P.....	1,826,357	32,380	207,201	82,725	9,513	8,867
Steam Engines.....No.....	221	53	21	19	19	35
Total Capacity.....H.P.....	58,886	14,278	4,433	5,801	5,650	9,623
Steam Turbines.....No.....	89	12	40	2	5	10
Total Capacity.....H.P.....	210,305	33,950	26,400	8,000	5,075	11,545
Gas and Oil Engines.....No.....	208	30	17	17	7	6
Total Capacity.....H.P.....	15,871	1,748	2,265	1,182	1,110	405
Total Dynamo Capacity.....K.V.A.....	1,583,100	63,117	159,621	79,588	14,901	20,195
Per Cent of Total for Canada.....	100.00	3.99	10.08	5.03	0.94	1.28
Dynamios A.C.....No.....	893	75	93	44	40	58
Capacity.....K.V.A.....	1,571,362	60,160	158,477	79,379	14,042	18,390
Dynamios D.C.....No.....	173	29	14	10	7	12
Capacity.....K.W.....	11,738	2,957	1,144	209	859	1,805
Commercial Stations						
Total Primary Power.....H.P.....	1,571,710	38,428	223,914	33,947	19,073	20,655
Water Wheels and Turbines.....No.....	453	13	43	7	15	8
Total Capacity.....H.P.....	1,398,672	32,380	197,156	22,400	8,703	1,615
Steam Engines.....No.....	118	21	11	7	16	26
Total Capacity.....H.P.....	32,763	4,655	2,258	3,471	5,235	8,050
Steam Turbines.....No.....	41	1	8	2	5	7
Total Capacity.....H.P.....	136,894	1,000	24,400	8,000	5,075	10,800
Gas and Oil Engines.....No.....	105	19	6	3	2	3
Total Capacity.....H.P.....	3,381	393	100	76	60	190
Total Dynamo Capacity.....K.V.A.....	1,190,243	27,067	148,603	26,288	13,177	16,643
Dynamios A.C.....No.....	546	34	58	14	28	33
Capacity.....K.V.A.....	1,182,450	26,930	147,459	26,213	12,318	14,848
Dynamios D.C.....No.....	128	18	14	5	7	12
Capacity.....K.W.....	7,763	137	1,144	75	859	1,805
Municipal Stations						
Total Primary Power.....H.P.....	539,709	43,928	16,385	63,761	2,275	1,785
Water Wheels and Turbines.....No.....	151	—	11	11	3	9
Total Capacity.....H.P.....	427,685	—	10,045	60,325	810	2,252
Steam Engines.....No.....	103	32	10	12	3	6
Total Capacity.....H.P.....	26,123	9,623	2,175	2,330	415	1,573
Steam Turbines.....No.....	28	11	2	—	—	3
Total Capacity.....H.P.....	73,411	32,950	2,000	—	—	745
Gas and Oil Engines.....No.....	103	11	11	12	5	3
Total Capacity.....H.P.....	12,490	1,355	2,165	1,106	1,050	215
Total Dynamo Capacity.....K.V.A.....	392,857	36,050	11,018	53,300	1,724	3,552
Dynamios A.C.....No.....	347	41	35	30	12	25
Capacity.....K.V.A.....	388,882	33,230	11,018	53,166	1,724	3,552
Dynamios D.C.....No.....	35	11	—	5	—	—
Capacity.....K.W.....	3,975	2,820	—	134	—	—

Table 11—Auxiliary Plant Equipment, 1921

Total Primary Power.....H.P.....	133,562	2,250	26,480	12,346	300	370
Per cent of Total for Canada.....	100	1.68	19.82	9.24	.23	.28
Steam Reciprocating Engines.....No.....	34	2	3	5	1	2
Total Capacity.....H.P.....	13,436	1,250	780	4,106	300	296
Steam Turbines.....No.....	26	1	9	2	—	—
Total Capacity.....H.P.....	119,600	1,000	25,500	8,000	—	—
Gas and Oil Engines.....No.....	5	—	1	2	—	1
Total Capacity.....H.P.....	526	—	200	240	—	80
Total Secondary Power.....K.V.A.....	107,490	2,025	20,115	10,525	—	382
Per cent of Total for Canada.....	100	1.88	18.71	9.79	—	.36
Dynamios A.C.....No.....	52	3	13	9	—	3
Total Capacity.....K.V.A.....	107,340	2,025	20,115	10,525	—	382
Dynamios D.C.....No.....	1	—	—	—	—	—
Total Capacity.....K.W.....	150	—	—	—	—	—
Commercial Stations						
Total Primary Power.....H.P.....	128,177	2,250	23,950	11,206	300	370
Steam Reciprocating Engines.....No.....	23	2	1	3	1	2
Total Capacity.....H.P.....	10,491	1,250	490	3,206	300	296
Steam Turbines.....No.....	24	1	7	2	—	—
Total Capacity.....H.P.....	117,600	1,000	23,500	8,000	—	—
Gas and Oil Engines.....No.....	2	—	—	—	—	1
Total Capacity.....H.P.....	86	—	—	—	—	80
Total Secondary Power.....K.V.A.....	104,115	2,025	18,265	9,750	—	382
Dynamios A.C.....No.....	40	3	8	5	—	3
Total Capacity.....K.V.A.....	103,965	2,025	18,265	9,750	—	382
Dynamios D.C.....No.....	1	—	—	—	—	—
Total Capacity.....K.W.....	150	—	—	—	—	—
Municipal Stations						
Total Primary Power.....H.P.....	5,385	—	2,530	1,140	—	—
Steam Reciprocating Engines.....No.....	11	—	2	2	—	—
Total Capacity.....H.P.....	2,945	—	330	900	—	—
Steam Turbines.....No.....	2	—	2	—	—	—
Total Capacity.....H.P.....	2,000	—	2,000	—	—	—
Gas and Oil Engines.....No.....	3	—	1	2	—	—
Total Capacity.....H.P.....	440	—	206	240	—	—
Total Secondary Power.....K.V.A.....	3,375	—	1,850	775	—	—
Dynamios A.C.....No.....	12	—	5	4	—	—
Total Capacity.....K.V.A.....	3,375	—	1,850	775	—	—
Dynamios D.C.....No.....	—	—	—	—	—	—
Total Capacity.....K.W.....	—	—	—	—	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 10—Machinerie, 1921

TOTAL DE LA MACHINERIE Y COMPRIS CELLE DES USINES AUXILIAIRES

Ontario	Prince Edward Is. — Ile du Prince-Edouard	Quebec	Saskatchewan	Yukon	
889,273	1,841	692,016	50,918	10,220	Total, force motrice primaire..... H.-P.
42-12	0-09	32-77	2-41	0-49	Pourcentage dans chaque province
266	9	207	—	2	Turbines et roues hydrauliques..... nomb.
824,653	288	655,730	21	10,000	Capacité totale..... H.P.
27	3	22	60	1	Machines à vapeur..... nomb.
4,310	500	8,255	5,916	1	Capacité totale..... H.P.
—	—	8	13	1	Turbines à vapeur..... nomb.
59,600	—	27,775	37,800	160	Capacité totale..... H.P.
10	7	17	107	—	Moteurs à gaz et à pétrole..... nomb.
710	993	256	7,202	—	Capacité totale..... H.P.
663,661	1,479	529,828	41,565	6,180	Machinerie développant la force motrice secondaire
41-92	0-09	32-47	2-81	0-39	Pourcentage dans chaque province
274	13	215	78	3	Dynamos, C.A..... nomb.
662,485	1,468	527,878	42,933	6,150	Capacité totale..... K.V.A.
19	2	14	64	2	Dynamos, C.D..... nomb.
1,141	11	1,950	1,632	30	Capacité totale..... K.W.
—	—	—	—	—	Usines commerciales
550,210	1,541	671,341	2,381	10,220	Total, force motrice primaire..... H.P.
175	9	181	—	2	Turbines et roues hydrauliques..... nomb.
488,025	288	638,105	—	10,000	Capacité totale..... H.P.
13	2	14	7	1	Machines à vapeur..... nomb.
2,350	410	5,365	909	60	Capacité totale..... H.P.
8	—	8	1	1	Turbines à vapeur..... nomb.
59,600	—	27,775	84	160	Capacité totale..... H.P.
5	6	4	55	—	Moteurs à gaz et à pétrole..... nomb.
235	843	96	1,388	—	Capacité totale..... H.P.
431,497	1,179	514,971	1,638	6,180	Machinerie développant la force motrice secondaire
171	11	180	14	3	Dynamos, C.A..... nomb.
433,369	1,168	513,033	1,002	6,150	Capacité totale..... K.V.A.
18	2	12	48	2	Dynamos, C.D..... nomb.
1,128	11	1,938	636	30	Capacité totale..... K.W.
—	—	—	—	—	Usines municipales
339,063	300	20,675	48,537	—	Total, force motrice primaire..... H.P.
91	—	26	—	—	Turbines et roues hydrauliques..... nomb.
336,628	—	17,625	—	—	Capacité totale..... H.P.
14	1	8	14	—	Machines à vapeur..... nomb.
1,960	150	2,890	5,007	—	Capacité totale..... H.P.
—	—	—	12	—	Turbines à vapeur..... nomb.
5	1	3	37,716	—	Capacité totale..... H.P.
475	150	160	52	—	Moteurs à gaz et à pétrole..... nomb.
229,129	300	14,857	42,927	—	Capacité totale..... H.P.
103	2	35	64	—	Machinerie développant la force motrice secondaire
229,116	300	14,845	41,931	—	Dynamos, C.A..... nomb.
1	—	2	16	—	Capacité totale..... K.V.A.
13	—	12	996	—	Dynamos, C.D..... nomb.
—	—	—	—	—	Capacité totale..... K.W.

Tableau 11—Machines des usines auxiliaires, 1921

61,865	66	29,885	—	—	Total, force motrice primaire..... H.P.
46-32	0-05	22-38	—	—	Pourcentage dans chaque province
11	1	9	—	—	Machines à vapeur..... nomb.
2,265	60	4,385	—	—	Capacité totale..... H.P.
8	—	6	—	—	Turbines à vapeur..... nomb.
59,600	—	25,500	—	—	Capacité totale..... H.P.
—	1	—	—	—	Moteurs à gaz et à pétrole..... nomb.
—	6	—	—	—	Capacité totale..... H.P.
50,278	—	24,165	—	—	Machinerie développant la force motrice secondaire
46-78	—	22-48	—	—	Pourcentage dans chaque province
14	—	10	—	—	Dynamos, C.A..... nomb.
50,128	—	24,165	—	—	Capacité totale..... K.V.A.
1	—	—	—	—	Dynamos, C.D..... nomb.
150	—	—	—	—	Capacité totale..... K.W.
—	—	—	—	—	Usines commerciales
60,840	66	29,195	—	—	Total, force motrice primaire..... H.P.
6	1	7	—	—	Machines à vapeur..... nomb.
1,240	60	3,695	—	—	Capacité totale..... H.P.
8	—	6	—	—	Turbines à vapeur..... nomb.
59,600	—	25,500	—	—	Capacité totale..... H.P.
—	1	—	—	—	Moteurs à gaz et à pétrole..... nomb.
—	6	—	—	—	Capacité totale..... H.P.
49,528	—	24,165	—	—	Machinerie développant la force motrice
11	—	10	—	—	Dynamos, C.A..... nomb.
49,378	—	24,165	—	—	Capacité totale..... K.V.A.
1	—	—	—	—	Dynamos, C.D..... nomb.
150	—	—	—	—	Capacité totale..... K.W.
—	—	—	—	—	Usines municipales
1,025	—	690	—	—	Total, force motrice primaire..... H.P.
5	—	2	—	—	Machines à vapeur..... nomb.
1,025	—	690	—	—	Capacité totale..... H.P.
—	—	—	—	—	Turbines à vapeur..... nomb.
—	—	—	—	—	Capacité totale..... H.P.
—	—	—	—	—	Moteurs à gaz et à pétrole..... nomb.
—	—	—	—	—	Capacité totale..... H.P.
250	—	—	—	—	Machinerie développant la force motrice
3	—	—	—	—	Dynamos, C.A..... nomb.
750	—	—	—	—	Capacité totale..... K.V.A.
—	—	—	—	—	Dynamos, C.D..... nomb.
—	—	—	—	—	Capacité totale..... K.W.

Table 12—Main Plant Equipment, 1921

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power..... H.P.....	1,977,857	80,106	213,819	85,362	21,048	25,070
Per Cent of Total for Canada.....	100-00	4-05	10-81	4-32	1-06	1-27
Water Wheels and Turbines..... No.....	604	13	54	18	18	17
Total Capacity..... H.P.....	1,826,357	32,380	207,201	82,725	9,513	3,867
Steam Reciprocating Engines..... No.....	187	51	18	14	18	53
Total Capacity..... H.P.....	45,450	13,028	3,653	1,695	5,350	9,333
Steam Turbines..... No.....	43	11	1	—	5	10
Total Capacity..... H.P.....	90,705	32,950	900	—	5,075	11,545
Gas and Oil Engines..... No.....	203	30	16	15	7	5
Total Capacity..... H.P.....	15,345	1,748	2,065	942	1,110	325
Boilers..... No.....	360	109	21	19	32	69
Total Capacity..... H.P.....	74,804	27,125	2,098	2,130	6,104	13,188
Per Cent of Total for Canada.....	100-00	36-26	2-81	2-85	8-16	17-63
Total Dynamo Capacity..... K.V.A.....	1,475,610	61,092	139,506	69,063	14,901	19,813
Per cent of Total for Canada.....	100-00	4-14	9-45	4-68	1-01	1-34
Dynamos, A.C..... No.....	841	72	80	35	40	55
Total Capacity..... K.V.A.....	1,464,022	58,135	138,362	68,854	14,042	18,008
Dynamos D.C..... No.....	172	29	14	10	7	12
Total Capacity..... K.W.....	11,588	2,957	1,144	209	859	1,805
Commercial Stations						
Total Primary Power..... H.P.....	1,443,533	36,178	199,964	22,741	18,773	20,285
Per cent of Total for Canada.....	100-00	2-51	13-85	1-58	1-30	1-41
Water Wheels and Turbines..... No.....	453	13	43	7	15	8
Total Capacity..... H.P.....	1,398,672	32,380	197,156	22,400	8,703	1,615
Steam Reciprocating Engines..... No.....	95	19	10	4	15	24
Total Capacity..... H.P.....	22,272	3,405	1,808	265	4,935	7,760
Steam Turbines..... No.....	17	—	1	—	5	7
Total Capacity..... H.P.....	19,294	—	900	—	5,075	10,800
Gas and Oil Engines..... No.....	102	19	6	5	2	2
Total Capacity..... H.P.....	3,295	393	100	76	60	110
Boilers..... No.....	157	27	9	4	26	53
Total Capacity..... H.P.....	27,080	3,615	859	360	5,479	10,828
Per Cent of Total for Canada.....	100-00	13-35	3-17	1-33	20-23	39-99
Total Dynamo Capacity..... K.V.A.....	1,086,128	25,042	130,338	16,538	13,177	16,261
Per Cent of Total for Canada.....	100-00	2-31	12-00	1-52	1-21	1-50
Dynamos A.C..... No.....	506	31	50	9	28	30
Total Capacity..... K.V.A.....	1,078,515	24,905	129,194	16,463	12,318	14,456
Dynamos D.C..... No.....	137	18	14	5	7	12
Total Capacity..... K.W.....	7,613	137	1,144	75	859	1,805
Municipal Stations—						
Total Primary Power..... H.P.....	534,324	43,928	13,855	62,621	2,275	4,785
Per Cent of Total for Canada.....	100-00	8-22	2-59	11-72	0-43	-90
Water Wheels and Turbines..... No.....	151	—	11	11	3	9
Total Capacity..... H.P.....	427,685	—	10,045	60,325	810	2,252
Steam Reciprocating Engines..... No.....	92	32	8	10	3	9
Total Capacity..... H.P.....	23,178	9,623	1,845	1,430	415	1,573
Steam Turbines..... No.....	26	11	—	—	—	3
Total Capacity..... H.P.....	71,411	32,950	—	—	—	745
Gas and Oil Engines..... No.....	100	11	10	10	5	3
Total Capacity..... H.P.....	12,050	1,355	1,965	866	1,050	215
Boilers..... No.....	203	82	12	15	6	16
Total Capacity..... H.P.....	47,724	23,510	1,239	1,770	625	2,360
Per Cent of Total for Canada.....	100-00	49-26	2-60	3-70	1-31	4-95
Total Dynamo Capacity..... K.V.A.....	359,182	36,050	9,168	52,525	1,724	3,552
Per Cent of Total for Canada.....	100-00	9-26	2-35	13-49	0-44	0-91
Dynamos A.C..... No.....	335	41	30	26	12	25
Total Capacity..... K.V.A.....	385,507	33,230	9,168	52,391	1,724	3,552
Dynamos D.C..... No.....	35	11	—	5	—	—
Total Capacity..... K.W.....	3,975	2,820	—	134	—	—
Hydraulic Stations—						
Total Dynamo Capacity..... K.V.A.....	1,352,124	22,250	134,214	67,162	6,873	3,018
Per Cent of Total for Canada.....	100-00	1-65	9-93	4-07	-51	-22
Dynamos A.C..... No.....	557	9	53	18	15	18
Total Capacity..... K.V.A.....	1,350,244	22,250	134,104	67,162	6,813	3,018
Dynamos D.C..... No.....	20	—	3	—	2	—
Total Capacity..... K.W.....	1,880	—	110	—	60	—
Fuel Stations—						
Total Dynamo Capacity..... K.V.A.....	123,486	38,842	5,292	1,901	8,028	16,795
Per Cent of Total for Canada.....	100-00	31-46	4-29	1-54	6-50	13-60
Dynamo A.C..... No.....	284	63	27	17	25	37
Total Capacity..... K.V.A.....	113,778	35,885	4,258	1,692	7,229	14,990
Dynamos D.C..... No.....	152	29	11	10	5	12
Total Capacity..... K.W.....	9,708	2,957	1,034	209	799	1,805

Tableau 12—Machines des usines principales, 1921

Ontario	Prince Edward Is. — Ile du Prince-Edouard	Quebec	Saskatchewan	Yukon	
827,408	1,775	662,131	50,918	10,220	Machinerie fournissant la force motrice primaire H.P.
41-83	0-09	33-48	2-57	0-52	Pourcentage dans chaque province H.P.
266	9	207	—	2	Turbines et roues hydrauliques..... nomb.
824,653	288	655,730	—	10,000	Capacité totale..... H.P.
16	2	13	21	1	Machines à vapeur..... nomb.
2,045	500	3,870	5,916	60	Capacité totale..... H.P.
—	—	2	13	1	Turbines à vapeur..... nomb.
10	6	2,275	37,800	160	Capacité totale..... H.P.
710	987	256	7,202	—	Moteurs à gaz et à pétrole..... nomb.
					Capacité totale..... H.P.
19	2	24	63	2	Chaudières..... nomb.
2,220	500	4,944	16,235	260	Capacité totale..... H.P.
2-97	0-67	6-60	21-70	0-35	Pourcentage dans chaque province
613,348	1,479	505,663	44,565	6,180	Capacité totale de l'ensemble des dynamos... K.V.A.
41-57	0-10	34-27	3-02	0-42	Pourcentage dans chaque province
260	13	205	78	3	Dynamos, C.A..... nomb.
612,357	1,468	503,713	42,933	6,150	Capacité totale..... K.V.A.
18	2	14	64	2	Dynamos, C.D..... nomb.
991	11	1,950	1,632	30	Capacité totale..... K.W.
489,370	1,475	642,146	2,381	10,220	Usines Commerciales—
33-90	0-10	44-48	0-16	0-71	Machinerie fournissant la force motrice prim.H.P.
175	9	181	—	2	Pourcentage dans chaque province
488,025	288	638,105	—	10,000	Turbines et roues hydrauliques..... nomb.
7	1	7	7	1	Capacité totale..... H.P.
1,110	350	1,670	909	60	Machines à vapeur..... nomb.
—	—	2	1	1	Capacité totale..... H.P.
—	—	2,275	84	160	Turbines à vapeur..... nomb.
5	5	4	55	—	Capacité totale..... H.P.
235	837	96	1,388	—	Moteurs à gaz et à pétrole..... nomb.
					Capacité totale..... H.P.
9	1	16	10	2	Chaudières..... nomb.
1,205	250	3,074	1,150	260	Capacité totale..... H.P.
4-45	0-92	11-35	4-25	0-96	Pourcentage dans chaque province
384,969	1,179	490,806	16,38	6,180	Capacité totale de l'ensemble des dynamos... K.V.A.
35-44	0-11	45-19	15	57	Pourcentage dans chaque province
160	11	170	14	3	Dynamos, C.A..... nomb.
383,991	1,168	488,868	1,002	6,150	Capacité totale..... K.V.A.
17	2	12	48	2	Dynamos, C.D..... nomb.
978	11	1,938	636	30	Capacité totale..... K.W.
338,638	300	19,985	48,537	—	Usines municipales—
63-26	0-06	3-74	9-08	—	Machinerie fournissant la force motrice prim H.P.
91	—	26	—	—	Pourcentage dans chaque province
336,628	—	17,625	—	—	Turbines et roues hydrauliques..... nomb.
9	1	6	14	—	Capacité totale..... H.P.
935	150	2,200	5,007	—	Machines à vapeur..... nomb.
—	—	—	12	—	Capacité totale..... H.P.
—	—	—	37,716	—	Turbines à vapeur..... nomb.
5	1	3	52	—	Capacité totale..... H.P.
475	150	160	5,814	—	Moteurs à gaz et à pétrole..... nomb.
					Capacité totale..... H.P.
10	1	8	53	—	Chaudières..... nomb.
1,015	250	1,870	15,085	—	Capacité totale..... H.P.
2-13	0-52	3-92	31-61	—	Pourcentage dans chaque province
228,379	300	14,857	42,927	—	Capacité totale de l'ensemble des dynamos... K.V.A.
58-64	0-08	3-81	11-02	—	Pourcentage dans chaque province
100	2	35	64	—	Dynamos, C.A..... nomb.
228,366	300	14,845	41,931	—	Capacité totale..... K.V.A.
1	—	2	16	—	Dynamos, C.D..... nomb.
13	—	12	996	—	Capacité totale..... K.W.
611,571	331	500,705	—	6,000	Les Usines Hydrauliques—
45-23	0-02	37-03	—	44	Capacité totale de l'ensemble des dynamos... K.V.A.
245	6	191	—	2	Pourcentage dans chaque province
611,134	323	499,440	—	6,000	Dynamos C.A..... nomb.
8	1	6	—	—	Capacité totale..... K.V.A.
437	8	1,265	—	—	Dynamos C.D..... nomb.
					Capacité totale..... K.W.
1,777	1,148	4,958	44,565	180	Les usines à combustible—
1-44	0-93	4-01	36-09	14	Capacité totale de l'ensemble des dynamos... K.V.A.
15	7	14	78	—	Pourcentage dans chaque province
1,223	1,145	4,273	42,933	150	Dynamos, C.A..... nomb.
10	1	8	64	2	Capacité totale..... K.V.A.
554	3	685	1,632	30	Dynamos C.D..... nomb.
					Capacité totale..... K.W.

Table 13—Main Plant Equipment Classified, 1921

No.		Canada	Alberta	British Columbia — Colombie Britannique	Manitoba
1	Primary Power—Force motrice primaire	4,977,857	80,106	213,819	85,366
2	Water Wheels and Turbines—Roues hydrauliques et turbines—				
3	Total H.P. No.	604	13	54	18
4	Under—Au-dessous de 500 H.P. No.	1,826,357	32,380	207,201	82,725
5	Total H.P.	221	7	16	1
6	500-2,000 H.P. No.	38,261	780	2,665	125
7	Total H.P.	184	—	17	2
8	2,000-5,000 H.P. No.	197,111	—	20,136	1,000
9	Total H.P.	69	2	5	2
10	5,000-10,000 H.P. No.	192,885	8,000	14,400	6,400
11	Total H.P.	53	4	6	13
12	10,000-15,000 H.P. No.	341,800	23,600	46,000	75,200
13	Total H.P.	49	—	10	—
14	15,000 up. No.	568,800	—	124,000	—
15	Total H.P.	28	—	—	—
16		487,500	—	—	—
17	Steam Engines and Turbines—Machines et turbines à vapeur—				
18	Total H.P. No.	230	62	19	14
19		136,155	45,978	4,553	1,695
20	Steam Reciprocating Engines—Machines à vapeur—				
21	Total H.P. No.	187	51	18	14
22	Under—Au-dessous de 500 H.P. No.	45,450	13,028	3,653	1,695
23	Total H.P.	165	43	17	14
24	500 up. No.	28,300	6,458	3,153	1,695
25	Total H.P.	22	8	1	—
26		17,150	6,570	500	—
27	Steam Turbines—Turbines à vapeur—				
28	Total H.P. No.	43	11	1	—
29	Under—Au-dessous de 500 H.P. No.	90,705	32,950	900	—
30	Total H.P.	8	—	—	—
31	500-2,000 H.P. No.	1,544	—	—	—
32	Total H.P.	13	2	1	—
33	2,000-5,000 H.P. No.	11,401	2,000	900	—
34	Total H.P.	18	7	—	—
35	5,000-10,000 H.P. No.	51,860	18,450	—	—
36	Total H.P.	4	2	—	—
37	10,000 up. No.	25,900	12,500	—	—
38	Total H.P.	—	—	—	—
39		—	—	—	—
40	Gas and Oil Engines—Moteurs à gaz et à pétrole—				
41	Total H.P. No.	203	30	16	15
42		15,345	1,748	2,065	942
43	Secondary Power—Force motrice secondaire				
44	Dynamos, A.C. and D.C.—C.A. et C.D.	Total No.	1,013	101	94
45	Total K.V.A.	1,475,610	61,092	139,506	69,063
46	Dynamos A.C.—C.A. No.	841	72	80	55
47	Under—Au-dessous de 200 K.V.A. No.	1,464,022	58,135	138,362	68,854
48	Total K.V.A.	316	44	33	13
49	200-500 K.V.A. No.	29,842	3,724	3,408	1,267
50	Total K.V.A.	127	9	12	5
51	500-1,000 K.V.A. No.	38,438	2,706	3,916	1,487
52	Total K.V.A.	140	3	11	—
53	1,000-5,000 K.V.A. No.	101,498	2,080	9,338	—
54	Total K.V.A.	156	14	10	10
55	5,000-10,000 K.V.A. No.	353,057	38,375	19,275	34,350
56	Total K.V.A.	62	2	14	5
57	10,000-15,000 K.V.A. No.	458,287	11,250	102,425	31,750
58	Total K.V.A.	37	—	—	—
59	15,000 up. No.	434,400	—	—	—
60	Total K.V.A.	3	—	—	—
61	Dynamos D.C.—C.D. No.	48,500	—	—	—
62	Under—Au-dessous de 200 K.W. No.	172	29	14	10
63	Total K.W.	11,588	2,957	1,144	209
64	200-500 K.W. No.	152	24	12	10
65	Total K.W.	3,813	307	644	209
66	500-1,000 K.W. No.	15	2	2	—
67	Total K.W.	4,675	800	500	—
68		5	3	—	—
69		3,100	1,850	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 13—Machines des usines principales classifiés, 1921

New Brunswick — Nouveau-Brunswick	Nova Scotia — Nouvelle-Ecosse	Ontario	Prince Ed. Island — Ile du Pr.-Edouard	Quebec	Saskatchewan	Yukon	Commercial — Commerciales	Municipal — Municipales	No.
21,048	25,070	827,408	1,775	662,131	50,918	10,220	1,443,533	534,324	1
18	17	266	9	207	—	2	453	151	2
9,513	3,867	824,653	288	655,730	—	10,000	1,398,672	427,685	3
13	16	78	9	81	—	—	175	46	4
2,713	3,117	14,123	288	14,450	—	—	28,911	9,350	5
3	1	104	—	57	—	—	117	67	6
2,000	750	110,120	—	63,105	—	—	126,136	70,975	7
2	—	32	—	26	—	—	62	7	8
4,800	—	86,660	—	72,625	—	—	175,725	17,160	9
—	—	12	—	16	—	2	40	13	10
—	—	74,550	—	112,450	—	10,000	264,800	77,000	11
—	—	24	—	15	—	—	40	9	12
—	—	283,700	—	161,100	—	—	462,600	106,200	13
—	—	16	—	12	—	—	19	9	14
—	—	255,500	—	232,000	—	—	340,500	147,000	15
—	—	—	—	—	—	—	—	—	16
—	—	—	—	—	—	—	—	—	17
23	43	16	2	15	34	2	112	118	18
10,425	20,878	2,045	500	6,145	43,716	220	41,566	94,589	19
—	—	—	—	—	—	—	—	—	20
18	33	16	2	13	21	1	95	92	21
5,350	9,333	2,045	500	3,870	5,916	60	22,272	23,178	22
15	29	16	2	11	17	1	86	79	23
2,450	6,433	2,045	500	2,600	2,906	60	15,352	12,948	24
3	4	—	—	2	4	—	9	13	25
2,900	2,900	—	—	1,270	3,010	—	6,920	10,230	26
—	—	—	—	—	—	—	—	—	27
5	10	—	—	2	13	1	17	26	28
5,075	11,545	—	—	2,275	37,800	160	19,294	71,411	29
1	4	—	—	1	1	1	5	3	30
250	775	—	—	275	84	160	799	745	31
3	1	—	—	—	3	—	8	5	32
1,825	4,070	—	—	—	2,606	—	6,795	4,606	33
1	2	—	—	1	7	—	4	14	34
3,000	6,700	—	—	2,000	21,710	—	11,700	40,160	35
—	—	—	—	—	2	—	—	4	36
—	—	—	—	—	13,400	—	—	25,900	37
—	—	—	—	—	—	—	—	—	38
—	—	—	—	—	—	—	—	—	39
—	—	—	—	—	—	—	—	—	40
7	5	10	6	7	107	—	103	100	41
1,110	325	710	987	256	7,202	—	3,295	12,050	42
—	—	—	—	—	—	—	—	—	43
—	—	—	—	—	—	—	—	—	44
47	67	278	15	219	142	5	643	370	45
14,901	19,813	613,348	1,479	505,663	44,565	6,180	1,086,128	389,482	46
40	55	260	13	205	78	3	506	335	47
14,042	18,008	612,357	1,468	503,713	42,933	6,150	1,078,515	385,507	48
21	34	46	11	54	57	1	152	164	49
2,424	3,375	4,700	968	5,770	4,056	150	14,120	15,722	50
11	12	41	2	29	6	—	71	56	51
3,543	3,268	12,619	500	8,476	1,923	—	20,955	17,483	52
5	5	72	—	39	5	—	93	47	53
2,700	3,025	53,129	—	28,272	2,954	—	66,950	34,548	54
3	4	55	—	50	8	2	115	41	55
5,375	8,340	110,047	—	109,795	21,500	6,000	261,015	92,042	56
—	—	30	—	9	2	—	39	23	57
—	—	245,662	—	54,700	12,500	—	283,775	174,512	58
—	—	14	—	23	—	—	35	2	59
—	—	156,200	—	278,200	—	—	413,200	21,200	60
—	—	2	—	1	—	—	1	2	61
—	—	30,000	—	18,500	—	—	18,500	30,000	62
7	12	18	2	14	64	2	137	35	63
859	1,805	991	11	1,950	1,632	30	7,613	3,975	64
6	7	17	2	10	62	2	124	28	65
209	405	791	11	375	832	30	3,288	525	66
—	5	1	—	3	2	—	11	4	67
—	1,400	200	—	975	800	—	3,075	1,600	68
1	—	—	—	1	—	—	2	3	69
650	—	—	—	600	—	—	1,250	1,850	70

Table 14—Electric Energy Generated, 1921

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
ALL STATIONS						
K.W. Hours Generated..... (thousands)	5,614,132	115,580	499,095	271,232	30,351	34,330
Per Cent of Total for Canada.....	100.00	2.06	8.89	4.83	.54	.62
K.V.A. Capacity Reporting.....	1,507,187	61,240	158,552	78,746	14,673	17,748
Per Cent of Total K.V.A. Capacity.....	95	97	99	99	99	88
Average K.W. hours per K.V.A.....	3,725	1,887	3,148	3,444	2,069	1,934
Commercial Stations						
Total						
K.W. hours Generated..... (thousands)	4,316,272	68,639	483,874	144,506	26,963	32,167
K.V.A. Capacity Reporting.....	1,123,805	25,725	147,890	26,238	12,949	15,885
Per Cent of Total K.V.A. Capacity.....	96	95	100	100	98	95
Average K.W. hours per K.V.A.....	3,841	2,668	3,272	5,508	2,082	2,025
Hydraulic						
K.W. hours Generated..... (thousands)	4,260,981	66,000	479,615	144,416	11,994	1,647
K.V.A. Capacity Reporting.....	1,093,580	24,275	145,788	26,100	6,075	1,345
Per Cent of Total K.V.A. Capacity.....	96	100	100	100	98	70
Average K.W. hours per K.V.A.....	3,896	2,719	3,290	5,533	1,974	1,225
Fuel						
K.W. hours Generated..... (thousands)	55,291	2,639	4,259	90	14,969	30,520
K.V.A. Capacity Reporting.....	30,225	1,450	2,102	138	6,874	14,540
Per Cent of Total K.V.A. Capacity.....	89	52	85	73	99	99
Average K.W. hours per K.V.A.....	1,829	1,819	2,026	652	2,178	2,099
Municipal Stations						
Total						
K.W. hours Generated..... (thousands)	1,297,860	46,941	15,221	126,726	3,388	2,163
K.V.A. Capacity Reporting.....	383,382	35,515	10,662	52,508	1,724	1,863
Per Cent of Total K.V.A. Capacity.....	98	99	97	100	100	52
Average K.W. hours per K.V.A.....	3,385	1,322	1,428	2,413	1,965	1,161
Hydraulic						
K.W. hours Generated..... (thousands)	1,186,601	—	11,408	125,256	2,020	75
K.V.A. Capacity Reporting.....	295,642	—	7,991	50,975	663	30
Per Cent of Total K.V.A. Capacity.....	97	—	97	100	100	20
Average K.W. hours per K.V.A.....	4,014	—	1,428	2,457	3,047	2,500
Fuel						
K.W. hours Generated..... (thousands)	111,259	46,941	3,812	1,476	1,368	2,088
K.V.A. Capacity Reporting.....	87,740	35,515	2,671	1,533	1,061	1,833
Per Cent of Total K.V.A. Capacity.....	98	99	95	89	100	89
Average K.W. hours per K.V.A.....	1,268	1,322	1,428	963	1,289	1,139
Total Hydraulic						
K.W. hours Generated..... (thousands)	5,447,582	66,000	491,023	269,666	14,014	1,722
K.V.A. Capacity Reporting.....	1,389,222	24,275	153,779	77,075	6,738	1,375
Per Cent of Total K.V.A. Capacity.....	95	100	100	100	98	40
Average K.W. hours per K.V.A.....	3,921	2,719	3,193	3,499	2,086	1,252
Total Fuel						
K.W. hours Generated..... (thousands)	166,550	49,580	8,072	1,566	16,337	32,608
K.V.A. Capacity Reporting.....	117,965	36,965	4,773	1,671	7,935	16,373
Per Cent of Total K.V.A. Capacity.....	96	95	90	88	99	98
Average K.W. hours per K.V.A.....	1,412	1,341	1,691	937	2,059	1,992

Tableau 14—Energie électrique produite, 1921

Ontario	Prince Edward Is. Ile du Prince-Edouard	Quebec	Saskatchewan	Yukon	
TOUTES USINES					
2,808,246	1,271	1,790,805	54,295	8,927	K.W. heures produits. (milliers)
50.02	.02	31.89	.97	.16	Pourcentage du total pour le Canada
627,562	1,286	497,605	43,595	6,180	K.V.A. puissance potentielle
97	87	94	98	100	Pourcent. de la puissance potentielle en K.V.A.
4,475	988	3,599	1,245	1,444	Moyenne des K.W. heures par K.V.A.
Usines commerciales					
Total					
1,779,844	1,125	1,769,498	729	8,927	K.W. heures produits. (milliers).
402,763	986	484,186	1,003	6,180	K.V.A. puissance potentielle
97	84	93	61	100	Pourcent. de la puissance potentielle en K.V.A.
4,419	114	3,655	727	1,444	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
1,779,587	53	1,768,783	—	8,886	K.W. heures produits. (milliers)
402,568	138	481,291	—	6,000	K.V.A. puissance potentielle.
97	42	95	—	100	Pourcent. de la puissance potentielle en K.V.A.
4,421	384	3,675	—	1,481	Moyenne des K.W. heures par K.V.A.
A combustible					
257	1,072	715	729	41	K.W. heures produits. (milliers)
1 95	848	2,895	1,003	180	K.V.A. puissance potentielle
24	100	88	61	100	Pourcent. de la puissance potentielle en K.V.A.
1,318	1,264	247	727	228	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
1,028,402	146	21,307	53,566	—	K.W. heures produits. (milliers)
224,799	300	13,419	42,592	—	K.V.A. puissance potentielle
98	100	90	99	—	Pourcent. de la puissance potentielle en K.V.A.
4,575	487	1,588	1,258	—	Moyenne des K.W. heures par K.V.A.
Hydraulique					
1,027,751	—	20,097	—	—	K.W. heures produits (milliers)
224,219	—	11,764	—	—	K.V.A. puissance potentielle
98	—	89	—	—	Pourcent. de la puissance potentielle en K.V.A.
4,584	—	1,708	—	—	Moyenne des K.W. heures par K.V.A.
A combustible					
651	146	1,210	53,566	—	K.W. heures produits (milliers)
580	300	1,655	42,592	—	K.V.A. puissance potentielle
60	100	100	99	—	Pourcent. de la puissance potentielle en K.V.A.
1,122	487	731	1,258	—	Moyenne des K.W. heures par K.V.A.
Total hydrauliques					
2,807,338	53	1,788,880	—	8,886	K.W. heures produits (milliers).
626,787	138	493,055	—	6,000	K.V.A. puissance potentielle
97	42	95	—	100	Pourcent. de la puissance potentielle en K.V.A.
4,479	384	3,628	—	1,481	Moyenne des K.W. heures par K.V.A.
Total à combustible					
908	1,218	1,925	54,295	41	K.W. heures produits (milliers)
775	1,148	4,550	43,595	180	K.V.A. puissance potentielle
44	100	92	98	100	Pourcent. de la puissance potentielle en K.V.A.
1,172	1,061	423	1,245	228	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 15—Fuel, 1921

Province	Bituminous Coal Slack Houille bitumineuse, menue				Bituminous Coal lump Houille bitumineuse, morceaux				Bituminous Coal run of mine Houille bitumineuse, tout venant			
	Canadian Canadienne		Foreign Etrangère		Canadian Canadienne		Foreign Etrangère		Canadian Canadienne		Foreign Etrangère	
	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value
	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur
	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$	ton tonnes	\$
Canada	1378,777	666,003	14,001	119,632	3,322	20,677	20,705	179,015	98,703	762,879	4,692	48,660
Alberta.....	59,572	136,592	—	—	2,151	8,755	—	—	5,099	33,001	—	—
Br. Columbia...	4,475	34,573	—	—	319	3,470	—	—	6,860	41,687	—	—
Manitoba.....	4,540	47,835	6,833	61,843	—	—	—	—	7,425	66,731	1,231	13,110
New Brunswick	19,192	140,376	—	—	80	560	—	—	16,965	135,449	—	—
Nova Scotia....	31,310	137,019	—	—	300	2,376	—	—	52,327	400,617	—	—
Ontario.....	125	1,150	6,168	48,429	455	5,316	19,574	167,704	215	2,589	—	—
Pr. Edw. Island	—	—	—	—	—	—	—	—	2,000	20,180	—	—
Quebec.....	—	—	1,003	9,360	—	—	1,131	11,311	122	1,406	3,461	35,550
Saskatchewan..	18,663	168,458	—	—	17	200	—	—	7,690	61,219	—	—
Yukon.....	—	—	—	—	—	—	—	—	—	—	—	—

Provinces	Gasoline Gazoline				Oil Fuel P�trole				Wood Bois			
	Canadian Canadienne		Foreign Etrang�re		Canadian Canadienne		Foreign Etrang�re		Canadian Canadienne		Foreign Etrang�re	
	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value	Quan- tity	Value
	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur	Quan- tit�	Valeur
	gal.	\$	gal.	\$	gal.	\$	gal.	\$	cord corde	\$	cord corde	\$
Canada	252,466	71,304	11,102	3,809	713,103	140,551	86 161	4,177	13,888	77,207	—	—
Alberta.....	82,888	11,583	3,443	1,442	320	352	—	—	5	60	—	—
Br. Columbia...	5,224	3,530	—	—	228,021	44,519	71,946	1,618	3,665	12,861	—	—
Manitoba.....	25,824	8,475	—	—	81,944	14,904	—	—	4,042	33,188	—	—
New Brunswick	2,543	945	—	—	88,164	15,219	—	—	300	1,150	—	—
Nova Scotia....	—	—	—	—	34,893	5,753	—	—	174	884	—	—
Ontario.....	2,350	758	3,189	454	—	—	—	—	2,884	14,760	—	—
Pr. Edw. Island	750	264	—	—	923	343	—	—	40	160	—	—
Quebec.....	8,621	3,381	—	—	—	—	—	—	10	90	—	—
Saskatchewan..	124,266	42,368	4,470	1,913	278,838	59,461	14,215	2,559	2,189	8,840	—	—
Yukon.....	—	—	—	—	—	—	—	—	579	5,214	—	—

Tableau 15—Combustible, 1921

Anthracite Coal — Anthracite				Lignite Coal — Lignite				Coke — Coke				Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		Canadian — Canadien		Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	
ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	ton — tonnes	\$	
7,086	34,413	7,305	105,402	103,355,059	759,123	—	—	218	823	—	—	Can
5,939	17,665	75	1,425	103,251,198	291,776	—	—	—	—	—	—	Alberta
—	—	200	4,144	13,039	56,373	—	—	6	48	—	—	Col. Britanniq.
429	3,561	500	9,680	—	—	—	—	—	—	—	—	Manitoba
—	—	236	3,947	—	—	—	—	—	—	—	—	Nouveau-Bruns
—	—	1,084	15,335	—	—	—	—	189	567	—	—	Nouvelle-Ecosse
—	—	601	9,511	—	—	—	—	—	—	—	—	Ontario
—	—	2,515	19,289	—	—	—	—	—	—	—	—	Ile du Pr.-Ed.
718	13,187	2,094	43,071	90,822	410,974	—	—	23	208	—	—	Québec
—	—	—	—	—	—	—	—	—	—	—	—	Saskatchewan
—	—	—	—	—	—	—	—	—	—	—	—	Yukon

Gas — Gaz				Other Fuel — Autre combustible		Total		Grand total	Provinces
Canadian — Canadien		Foreign — Etranger		Canadian — Canadien	Foreign — Etranger	Canadian — Canadien	Foreign — Etranger		
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur	Value — Valeur		
1,000 c. ft. — \$	—	1,000 c. ft. — \$	—	\$	\$	\$	\$	\$	
1,000 p.c.	—	1,000 p.c.	—	—	—	—	—	—	
1,973,704	14,009	—	—	15,869	377	2,562,858	462,072	3,024,930	Canada
1,971,204	12,684	—	—	—	—	512,468	2,867	515,335	Alberta
—	—	—	—	4,302	—	144,990	1,618	146,608	Colombie Britannique
—	—	—	—	184	—	227,690	79,097	306,787	Manitoba
—	—	—	—	3,160	—	300,420	9,680	310,100	Nouveau-Brunswick
—	—	—	—	2,450	—	549,666	3,947	553,613	Nouvelle-Ecosse
2,500	1,326	—	—	—	—	25,898	231,922	257,820	Ontario
—	—	—	—	—	—	20,947	9,511	30,458	Ile du Prince-Edouard
—	—	—	—	5,773	—	10,650	75,510	86,160	Québec
—	—	—	—	—	377	764,915	47,920	812,835	Saskatchewan
—	—	—	—	—	—	5,214	—	5,214	Yukon

CANADA
BUREAU FÉDÉRAL DE LA STATISTIQUE

RECENSEMENT INDUSTRIEL, 1921

1ère Partie—Statistique

USINES ÉLECTRIQUES CENTRALES
DU CANADA

Préparé en collaboration avec la Division des Forces Hydrauliques du
Dominion, du ministère de l'Intérieur, et avec le concours de la
Commission Hydroélectrique d'Ontario, la Commission
des Eaux Courantes de Québec, la Commission de
l'Énergie Électrique du Nouveau-Brunswick
et la Commission de la Force Motrice
de la Nouvelle-Ecosse

Publié par ordre de l'hon. J. A. ROBB, M.P., Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1923

RECENSEMENT INDUSTRIEL, 1921.

USINES ÉLECTRIQUES CENTRALES.

Préface.

Les statistiques sur les usines centrales d'électricité au Canada, que contient ce rapport, ont été recueillies et compilées en vertu de la Loi de la Statistique, 1918 (8-9 George V., Chapitre 43) sous la direction de M. G. S. Wrong, B. Sc., du Bureau Fédéral de la Statistique.

La section du Service d'Inspection de l'Electricité et du Gaz, le Ministère du Commerce; la Division des Forces Hydrauliques du Canada; la Commission Hydro-Electrique de l'Ontario et plusieurs autres commissions et services provinciaux ont collaboré à cette compilation. En vertu d'une entente entre le Bureau de la Statistique et la Division des Forces Hydrauliques, les cédules et rapports ont été vérifiés sous la direction de M. T. Johnston, sous-directeur, par M. Alexander Roger, ingénieur de la Division des Forces Hydrauliques du Canada. Le Bureau de la Statistique offre de cordiaux remerciements aux nombreux départements qui ont collaboré à ce travail, de même qu'aux gérants des différentes usines électriques centrales, pour la diligence qu'ils ont mise à fournir les renseignements demandés.

Le rapport est publié en deux sections, la première partie, telle que décrite ci-dessus, donne le recensement général et une statistique condensée de cette industrie telle qu'elle était au 1er janvier, 1922, et la deuxième partie donne une liste complète et classifiée de toutes les organisations publiques ou privées distribuant ou vendant de l'énergie électrique. Alors que les données de cet almanach sont basées sur les statistiques de la première partie, l'Almanach résume les conditions existantes au 1er novembre 1922. On peut obtenir des emplois de la première partie (Statistiques) du rapport en s'adressant au Bureau Fédéral de la Statistique. Pour copies de la deuxième partie, (Almanach) faut s'adresser au Directeur de la Division des Forces Hydrauliques.

Par l'intermédiaire de la section du service d'inspection de Gaz et d'Electricité, le ministère du Commerce publie aussi un rapport annuel donnant les noms de toutes les compagnies enregistrées sous la Loi de l'Inspection Electrique, donnant le type de principe moteur, phase, fréquence et voltage de chaque système et le nombre de compteurs dans chaque municipalité.

R. H. COATS
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE.
OTTAWA, 21 avril 1923.

NOTICE SUR LES FORCES HYDRAULIQUES DU CANADA.

Le Canada est très riche en ressources hydrauliques. Presque tous les grands centres industriels de ce pays se servent actuellement de l'énergie hydro-électrique et possèdent, dans leur voisinage immédiat, d'amples réserves de force hydraulique. *Plus de 90 pour cent du total de la force motrice utilisée par les usines électriques du Canada dérive de l'eau.*

Les ressources hydrauliques de la Puissance sont administrées tantôt par les autorités fédérales et tantôt par les gouvernements provinciaux. Celles qui se trouvent dans l'Alberta, la Saskatchewan, le Manitoba, le Yukon et les territoires du Nord-Ouest, sont placées sous la gestion immédiate de la division des Forces hydrauliques du Dominion, du ministre de l'Intérieur. Dans le reste du pays, les forces hydrauliques sont administrées par les organismes suivants: en Colombie Britannique, le Ministère des Terres; dans l'Ontario, le ministère des Terres et Forêts; en Nouvelle-Ecosse, le commissaire des Travaux Publics et des Mines; dans l'île du Prince-Edouard, le commissaire des Travaux Publics.

Dans les provinces du Manitoba, d'Ontario, du Nouveau-Brunswick et de la Nouvelle-Ecosse, des commissions gouvernementales ont été constituées, soit pour la captation, soit pour l'achat de la force motrice, ainsi que pour la transmission et la distribution de l'énergie électrique. C'est la province d'Ontario qui a obtenu le plus grand succès dans cette direction, au moyen de sa Commission Hydroélectrique, constituée en 1905. En général, cette commission se substitue à l'action des municipalités, en se chargeant soit de produire, soit d'acheter l'énergie électrique, sous le principe coopératif. Elle agit également au nom et pour le compte du gouvernement provincial, lequel fournit les fonds nécessaires à l'entreprise. En 1919, cette commission fournissait de l'énergie électrique à 230 municipalités et exploitait 16 usines, développant au total 315,929 h.p. Les Commissions de la Force Motrice du Manitoba et de la Nouvelle-Ecosse, formées en 1919, et la commission de Force Motrice Electrique du Nouveau-Brunswick créée en 1920, fonctionnent à peu près de la même manière que la commission Hydroélectrique d'Ontario. Au Manitoba, la commission achète de la cité de Winnipeg la force motrice et la transmet à Portage la Prairie et aux autres villes du sud de la province; de plus, elle exploite à Minnedosa, une usine hydroélectrique de 125 h.p., plus une autre au pétrole de 240 h.p. et, à Virden, une usine au pétrole de 240 h.p. La commission de la Nouvelle-Ecosse a capté, à la baie St-Margaret, deux chutes d'eau produisant ensemble 10,820 h.p. qu'elle vend en totalité à la Compagnie des Tramways et de la Force Motrice de la Nouvelle-Ecosse, pour la consommation de la cité d'Halifax et ses environs; en outre, elle a acheté et reconstruit une usine de 700 h.p. sur la rivière Mushamush, dont elle vend la production en bloc pour la consommation de Lunenburg et Riverport. La Commission du Nouveau Brunswick vient d'achever la construction d'une usine hydroélectrique de 11,10 h.p. sur la rivière Musquash, le courant étant transmis à St. John et Moncton où il est distribué et, de plus, cette Commission achète de la force motrice en bloc, pour la consommation de Newcastle, Douglastown et autres localités du nord-est de la province. Dans la province de Québec, il n'existe pas de commission gouvernementale de cette nature; toutefois, la Commission des Eaux Courantes de Québec travaille activement à l'étude des chutes d'eau et à la construction de réservoirs, pour le développement des forces hydrauliques.

¹Ces chiffres ne comprennent pas les développements hydroélectriques de la Commission de Chippewa-Queenstown, qui donnera une force initiale de 275,000 h.p., dont 220,000 sont déjà installés.

La Division des Forces Hydrauliques du Dominion, de concert avec les différentes organisations provinciales, a procédé à une analyse coordonnée des forces hydrauliques de la Puissance, ce qui lui a permis d'en dresser l'inventaire que nous donnons ci-dessous:

Provinces.	Force motrice utilisable en 24 heures, à 80 pour cent du débit.		Turbines installées, h.p.
	Au minimum habituel du débit, h.p.	Au maximum de débit (pendant six mois,) h.p.	
1	2	3	4
Colombie Britannique.....	1,931,142	5,013,460	328,977
Alberta.....	475,281	1,137,505	33,067
Saskatchewan.....	513,481	1,087,736	.....
Manitoba.....	3,270,491	5,769,444	134,025
Ontario.....	4,950,300	6,808,190	1,299,230
Québec.....	6,915,244	11,640,052	1,073,883
Nouveau-Brunswick.....	50,406	120,807	42,039
Nouvelle-Ecosse.....	20,751	128,264	47,100
Île du Prince-Edouard.....	3,000	5,270	2,239
Yukon et Territoires du Nord-Ouest.....	125,220	275,250	13,199
	18,255,316	32,075,998	2,973,759

Les chiffres des colonnes 2 et 3 comprennent uniquement les rapides, chutes, etc., susceptibles de captation et dont le débit utilisable est bien connu, ou tout au moins, approximativement établi. Il existe, d'un littoral à l'autre, de nombreux pouvoirs d'eau, d'une puissance variable, qui n'ont pas encore été inventoriés. Néanmoins, on peut admettre sans commettre d'erreur, que le Canada possède et peut utiliser 18,225,000 h.p., développés pendant 24 heures sans interruption, tandis que ce volume s'élève, pendant au moins six mois de l'année, à 32,076,000 h.p.

Le Canada possède des turbines installées, produisant 2,973,759 h.p. Une analyse détaillée de la relation existant entre cette machinerie en action—prenant en considération les réservoirs locaux et les facteurs de charge—et les forces hydrauliques utilisables correspondantes indique, qu'à l'heure actuelle, les forces hydrauliques de la Puissance reconnues et susceptibles de captation, permettent l'installation de turbines développant 41,700,000 h.p. En d'autres termes, les turbines fonctionnant aujourd'hui ne représentent que 7.1 pour cent du total des forces utilisables. A l'appui de cette assertion, on peut citer le cas des provinces du Nouveau-Brunswick et de la Nouvelle-Ecosse; une étude approfondie des ressources hydrauliques de ces provinces a révélé la possibilité de construire, à peu de frais, des réservoirs régulateurs du débit des cours d'eau, si bien qu'en tenant compte du facteur de diversité entre les forces hydrauliques et les besoins des consommateurs, ces deux provinces possèdent respectivement 200,000 et 300,000 h.p. utilisables, au lieu des chiffres très inférieurs portés au tableau ci-dessus.

Avec 338 h.p. développés par 1,000 habitants, le Canada occupe une situation privilégiée au point de vue des ressources hydrauliques disponibles et utilisables, n'étant surpassé à cet égard que par la Norvège. L'énorme volume des forces hydrauliques restant en réserve, assure l'exploitation et le développement graduels des autres richesses naturelles du pays, tout spécialement si on les utilise concurremment avec les immenses ressources houillères de la Puissance.

Ottawa, 1er février 1923.

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CINQUIÈME RAPPORT ANNUEL

SUR

LES USINES ÉLECTRIQUES CENTRALES DU CANADA.

Le cinquième recensement des usines électriques centrales du Canada indique une augmentation constante dans cette industrie, augmentation qui, au cours des cinq dernières années, se constate également dans le capital engagé, dans l'outillage employé et dans les revenus et profits. La dépression industrielle de 1921 a eu sur cette industrie un certain effet qui a cependant été moins affectée que la plupart des autres. La consommation d'énergie électrique accuse une diminution de cinq pour cent sur 1920, ce qui indique une charge moindre, mais les revenus dérivant de l'éclairage et de la force motrice accusent respectivement une augmentation de 13 et de 10 pour cent. L'éclairage donne un peu près la moitié du revenu total (sans tenir compte du revenu de l'électricité changée entre différentes usines centrales) et comme la charge de l'éclairage n'est guère affectée par des dépressions industrielles de courte durée, c'est un facteur de stabilisation dans l'industrie.

L'utilisation plus générale des pouvoirs d'eau, les progrès dans la génération et la transmission de courant électrique, et l'amélioration des lampes, des moteurs et des appareils de chauffage, ont tous contribué à la croissance si rapide de cette industrie, alors que des taux moins élevés et la vulgarisation des différents usages de l'électricité ont été autant de facteurs qui ont participé à augmenter la consommation de l'électricité. De front avec l'avance de cette industrie, on trouve celle de la fabrication d'appareils électriques pour différents usages, alors que pour plusieurs autres industries la quantité de pouvoir, produite et distribuée par les usines centrales, est d'une importance vitale. Pour les provinces d'Ontario et de Québec où tout le charbon est importé et où il n'y a d'immenses ressources en hydraulique, il est facile de comprendre l'importance de ces usines centrales qui transforment la force hydraulique en électricité et en font ensuite la distribution. Les stations hydrauliques de ces deux provinces génèrent 82 pour cent de tout le courant électrique produit par l'eau au Canada.

Au cours de 1921 il a été exporté aux États-Unis 885,248,604 kilowatt-heures, dont plus de la moitié provenait des usines de Niagara Falls, Ontario. Les importations ont été minimes, le seul point d'entrée de quelque importance étant Sarnia, Ontario, où la St. Clair Tunnel Company a importé de 165,000 à 200,000 kilowatt-heures par mois.

Au cours de l'année, plusieurs installations importantes ont été commencées alors que d'autres ont été complétées, la principale étant la station Queensdown de la Commission Hydroélectrique d'Ontario. Cependant, elle n'est pas incluse dans le rapport de 1921 parce qu'une seule turbine avait été placée, et cela seulement en décembre. L'usine de la Commission sur la rivière Nipigon, avec une capacité de 25,000 h.p., est une addition sur 1920 et la compagnie ontarienne a mis en opération une nouvelle turbine de 22,000 h.p. et en a installé une autre d'égale capacité en 1922. Il y a plusieurs développements nouveaux formant 2,800 h.p. à Montmagny, Québec; 4,700 h.p. à Sherbrooke, Québec et 13,800 h.p. à Winnipeg, Manitoba, en plus d'une turbine à vapeur produisant 6,700 h.p. à Saskatoon, Saskatchewan et de nombreuses installations de moindre importance par tout le pays.

USINES (*Tableau 2*).—Les usines centrales électriques sont divisées en deux classes générales: (1) les usines commerciales, ou exploitées comme entreprises privées, et (2) municipales, ou celles qui sont exploitées par des commissions provinciales ou autres corps publics. Ces deux classes sont subdivisées en (1) non-génératrices, ou celles qui achètent toute l'énergie qu'elles revendent, et (2) génératrices ou celles qui produisent en tout ou en partie le courant qu'elles vendent. Les stations génératrices à leur tour se divisent en (1) hydrauliques, ou celles qui puisent leur pouvoirs dans une chute d'eau et (2) à combustible, ou celles qui génèrent leur pouvoir par des engins à vapeur ou à combustion interne.

En cinq ans le nombre des usines a grandi de 666 à 857, et depuis 1920, a augmenté de 38, dont une usine hydraulique et trois à combustion et 34 stations non-génératrices. Les usines non-génératrices, sous la juridiction de la Commission Hydraulique de l'Ontario comptent pour 21 dans le chiffre d'augmentation mais quelques-unes avaient déjà été des usines commerciales génératrices en 1920, et de même, au Manitoba, trois usines génératrices ont été changées en non-génératrices par la Commission Electrique du Manitoba, qui a aussi établi deux nouvelles usines non-génératrices.

Le changement dans la qualité de propriété est une diminution de deux dans le nombre des usines commerciales et une augmentation de quarante dans les usines municipales.

CAPITAL (*Tableau 3*).—La capital employé dans l'industrie, comprenant la valeur des sites, des édifices, de l'outillage, des matériaux, des espèces en caisse et autre actif de roulement, a atteint \$484,669,451, soit une augmentation de 8 pour cent sur 1920, et de 36 pour cent sur 1917. Cette augmentation se trouve en plus grande partie dans les usines municipales qui avaient un capital total de \$73,185,673 en 1917 et de \$157,229,624 en 1921. Plus de 82 pour cent de cette augmentation provient des usines municipales de l'Ontario, bien qu'il y ait en une forte augmentation dans toutes les provinces. Dans la majorité des cas, la moyenne du capital proportionnellement à chaque unité électrique est plus considérable qu'en 1920, comme on le constate au bas du tableau 3. Dans ces moyennes il faut inclure les matériaux, l'argent en caisse et autre roulant de toutes les usines, génératrices ou non, de sorte qu'elles ne peuvent servir à établir un prix de revient. Tout de même, elles donnent la relation des valeurs entre les différentes provinces en autant qu'elles sont affectées par les conditions locales et la nature du pouvoir générateur.

REVENU (*Tableau 4*).—Le revenu brut des usines centrales a augmenté de plus de 64 pour cent sur 1917 et de 11 pour cent sur 1920. En certains cas le revenu de \$73,376,580 se trouve majoré, surtout quand un courant passe par deux ou trois usines centrales avant d'atteindre le consommateur. Cependant le coût total de l'énergie électrique achetée par les usines centrales en 1921, été de \$15,104,958, laissant une somme nette de \$58,271,622 payée par les consommateurs pour 5,164,132,000 kilowatt-heures, plus une faible quantité non mesurée. Ceci donne comme revenu provenant des consommateurs, une moyenne d'environ un centin par kilowatt-heure, mais la moyenne des taux d'éclairage est sensiblement plus élevée alors que celle du pouvoir est naturellement plus basse.

Les moyennes de revenu par kilowatt-heure généré, montrées au bas de la table, comprennent le revenu net de toutes les usines génératrices ayant fait rapport sur leur production, c'est-à-dire, sur le revenu brut moins ce qui est payé pour l'énergie achetée pour revente, et montre aussi les pertes dans la transmission et dans la transformation. Comme les usines achètent leur énergie sur mesure de h.p., il est impossible de computer avec précision le revenu moyen par kilowatt-heure, mais ces moyennes sont affectées seulement par la différence entre le revenu provenant du pouvoir acheté et le prix qu'il a été payé. Aucune des usines génératrices centrales du Manitoba, de l'Île du

Prince Edouard, de la Saskatchewan et du Yukon n'achètent de courant et la quantité qu'achètent celles du Nouveau-Brunswick est négligeable, de sorte que les moyennes de ces provinces ne sont pas affectées, et dans les autres provinces, les erreurs ne peuvent être considérables.

Les grandes usines génératrices produisent et vendent du pouvoir à un taux beaucoup plus bas que les usines à combustion, de sorte que les usines de la Colombie Britannique, du Manitoba, de l'Ontario et du Québec ont des moyennes beaucoup plus basses que celles des autres provinces. Ces taux moins élevés sont certainement le principal facteur de la plus grande proportion de clients ou consommateurs comparativement à la population, comme le montre le tableau 8, mais il faut aussi tenir compte de la densité de la population.

SERVICE GRATUIT.—(*Tableau 5*). Le service gratuit est la valeur approximative de l'électricité employée à l'éclairage des rues, des édifices publics, etc., et pour laquelle il n'est reçu aucune compensation directe. Dans les usines municipales, c'est une simple question de comptabilité, le département d'éclairage n'ayant pas le crédit de ses services, et il serait de bon calcul d'ajouter ces montants aux revenus. Il est à remarquer que les usines municipales rapportent 86 pour cent du total de leur service gratuit.

DÉPENSES (*Tableau 6*).—Le chiffre des dépenses comprend les salaires traitements et appointements, le coût du combustible, le loyer des bureaux, les taxes, les annonces, l'entretien des édifices et de l'outillage, autres dépenses diverses et le prix de l'énergie achetée. Ce dernier item, à lui seul, se monte à \$15,104,958 pour toutes les usines et figure dans les dépenses diverses. Les usines génératrices ont acheté en tout pour \$6,041,389 d'énergie alors que les usines non-génératrices ont payé \$9,063,569 pour l'énergie achetée et distribuée par elles.

Le chiffre global des dépenses accuse sur 1920 une augmentation de 4 pour cent, malgré une diminution de 5 pour cent dans le coût du combustible, et bien que les usines à combustible aient eu une production moins considérable. Les salaires ont augmenté de 4 p. cent sur 1920, mais comparés à ceux de 1917, ils montrent une augmentation de 96 pour cent, alors que le nombre des employés a augmenté de 21 pour cent.

EMPLOYÉS (*Tableau 7*).—L'augmentation sur 1917 de 21 pour cent dans le nombre des employés provient en totalité des usines municipales où le nombre des employés a été porté de 3,312 à 5,595 et le nombre des usines, de 343 à 480, alors que l'augmentation totale de 1921 sur 1920 est seulement de 21 employés.

ABONNÉS (*Tableau 8*).—Le nombre d'abonnés ou clients a augmenté sur 1920 de 894, 158 à 973,212, soit un peu plus que 8 pour cent. Il est certainement remarquable de constater qu'au delà de 45 pour cent du total des clients soit abonné à des usines ne générant pas leur propre pouvoir, bien que le revenu de ces usines soit seulement 29 pour cent du revenu global. Les clients des usines municipales non-génératrices dans l'Ontario forment environ 70 pour cent de la totalité des abonnés de toutes les usines non-génératrices au Canada, la Colombie Britannique fournissant 11 pour cent de ce total et les 19 pour cent qui restent sont répartis entre les autres provinces.

Les moyennes au bas du tableau comprennent les populations rurales et urbaines, et bien que les lignes de distribution pénètrent chaque année plus loin dans la campagne, c'est dans les villes que se trouve la grande majorité des abonnés. Un grand nombre de familles vivant dans les banlieues et villégiatures non incorporées, et se servant de l'électricité pour la cuisson et l'éclairage, sont comptées dans la population rurale. Il ne serait cependant pas exagéré de dire que les deux tiers des familles vivant dans des centres d'un caractère urbain, ont employé l'électricité en 1921.

LIGNES SUR POTEAUX (*Tableau 9*).—L'augmentation sur 1920 des lignes sur poteaux a été de 835 milles, dont 72 milles pour transmission et 763 milles

pour distribution. Cette croissance des lignes aériennes est une indication de l'étendue des nouveaux territoires desservis, mais elle n'indique pas nécessairement une augmentation correspondante en affaires, parce que de nouveaux fils sont ajoutés aux lignes existantes dès que la charge devient trop forte pour les circuits établis, sans addition au nombre de poteaux. Dans cette longueur des lignes, il faut aussi inclure les lignes dans les conduits souterrains des villes. Comme on doit s'y attendre, la plus grande partie des lignes de transmission se trouve dans les provinces où l'électricité est générée par la force hydraulique.

MACHINERIES (Tableau 10).—L'équipement des usines hydrauliques est divisé en deux classes: (1) l'équipement de l'usine principale comprenant les turbines, les roues d'eau et les dynamos qu'elles actionnent (tout l'équipement des usines à combustible est considéré en bloc comme équipement de l'usine principale) et (2) l'équipement de l'usine auxiliaire, qui comprend les engins à vapeur ou à gaz et leur dynamos. Dans plusieurs usines hydroélectriques, l'équipement à vapeur n'est pas strictement auxiliaire, mais il est plutôt supplémentaire et tenu en service la plus grande partie de l'année. Dans certaines usines, on s'en sert tous les jours, à certaines heures pour pourvoir à la charge maxima, alors que dans d'autres usines, on ne s'en sert que pendant les eaux basses. Des 259 usines hydrauliques, il n'y en a que 35, ou moins de 14 pour cent outillées d'un équipement auxiliaire avec une capacité totale de 105,062 h.p. Il y a aussi trois usines non-génératrices qui maintiennent des usines auxiliaires à la vapeur, d'une capacité totale de 28,500 h.p., pour obvier au cas d'urgence.

La puissance totale du pouvoir que peuvent générer toutes les usines est de 2,111,419, ce qui est une augmentation de plus de 3 p. 100 sur 1920. C'est dans la Saskatchewan que l'augmentation a été comparativement la plus rapide, la capacité des machines génératrices a augmenté de 60 pour cent et le nombre des usines a augmenté de 70 pour cent. Toutes les usines de cette province sont à combustible, plusieurs d'entre elles employant des engins à combustion interne, et dans la plupart des cas, la production de l'usine étant sur une très petite échelle. Les usines de l'Ontario accusent la plus grande augmentation dans l'outillage de génération primaire, soit 104,608 h.p. ou 13 pour cent.

MACHINERIES DES USINES AUXILIAIRES (Tableau 11).—Il y a eu peu de changement dans l'outillage des usines auxiliaires au cours de l'année, et comme on peut s'y attendre, 88 pour cent de cet outillage est installé dans l'Ontario, le Québec et la Colombie Britannique. Les usines municipales n'ont que 4 pour cent de pouvoir auxiliaire primaire, alors qu'elles ont 23 pour cent du pouvoir hydraulique dans l'équipement des usines principales.

MACHINERIES DES USINES PRINCIPALES (Tableau 12).—Tel qu'expliqué plus haut, ce tableau comprend toutes les machines génératrices des usines à combustible, mais pour les usines hydrauliques, il ne comprend que les roues et turbines avec leurs dynamos. Ce qui frappe le plus dans l'industrie des usines électriques centrales du Canada, c'est la prédominance du pouvoir hydraulique comme force primaire. Les turbines de toutes les usines ont une capacité globale de 1,826,357 h.p., ce qui dépasse 92 pour cent de la capacité totale de toutes les forces motrices, alors que dans les usines commerciales cette proportion est encore plus forte, atteignant 97 pour cent.

La capacité des turbines dans les usines de l'Ontario atteint presque 100 pour cent du total de toutes les forces primaires et dans la province de Québec, cette proportion est de 99 pour cent et de 97 pour cent dans le Manitoba et la Colombie-Britannique.

CLASSIFICATION DE L'ÉQUIPEMENT DES USINES PRINCIPALES (Tableau 13). L'équipement couvert dans le tableau 12 est ici divisé par groupes de taux, par provinces, et par classes d'usines. Ce tableau est intéressant en ce qu'il montre le nombre d'unités de chaque groupe et où elles sont situées.

Les plus grandes turbines se trouvent dans l'Ontario et le Québec, le plus grand nombre se trouvant dans les usines commerciales, alors que le plus grand nombre d'engins à vapeur de forte capacité est dans la Saskatchewan et l'Alberta, et plus de la moitié des engins à combustion interne se trouve dans les usines de la Saskatchewan.

La plus forte augmentation dans les unités mues par eau installées depuis 1917 se trouve dans les roues d'une capacité variant de 500 à 2,000 h.p., qui ont augmenté de 45 en nombre et de 41,774 h.p. en capacité. Les roues de plus que 15,000 h.p. de capacité ont augmenté de 3 en nombre et de 62,000 h.p., en capacité, alors que les petites roues d'une capacité en bas de 500 h.p. ont diminué de 83 en nombre et de 37,578 h.p. en rendement. Les chiffres de 1917 incluaient l'équipement auxiliaire, ce qui nuit beaucoup à la comparaison et à la lucidité de conclusion de ce tableau, mais le changement net en engins et turbines à vapeur a été très faible, bien que les engins à gaz ou à l'huile aient augmenté, en ces cinq années, de 86 pour cent en nombre et de 36 pour cent en capacité. La capacité moyenne de ces engins à combustion interne accuse une diminution de 104 h.p. en 1917 à 76 h.p. en 1921, indiquant la croissance dans le nombre des engins à petit rendement.

ENERGIE ELECTRIQUE GÉNÉRÉE (Tableau 14).—La production totale de toutes les usines génératrices a été de 5 pour cent plus basse que l'année précédente. Ontario et Québec, qui ont tous deux de puissantes réserves, accusent une diminution, alors que les autres provinces accusent une augmentation.

Comme il a été dit plus haut, certaines usines n'ont pas les appareils nécessaires pour le mesurage de leur production, mais par les moyennes de leur capacité, on peut avoir une idée assez juste de leur production. Plus de 97 pour cent de toute l'énergie générée est le produit des usines hydrauliques qui ont donné une capacité moyenne de 3,921 kilowatts par k.v.a. alors que les usines à combustible ont généré 3 pour cent du total, avec une capacité moyenne de 1,412 kilowatts K.v.a. Considérant qu'avec une charge de 80 pour cent la capacité maximum de production par k.v.a. serait de 7,000 kilowatt-heures par année, la production des classes ou groupes d'usines hydrauliques variant de 4,000 à 5,500 kilowatt-heures indique un fort rendement de l'équipement, attendu que les stations individuelles accusent une production moyenne encore plus élevée. C'est à cause des charges fortes et continues que les usines hydrauliques peuvent vendre l'énergie à si bas prix, comparativement au prix des usines à combustible.

COMBUSTIBLE (Tableau 15).—Le compte du combustible accuse une diminution de \$165,286 sur 1920, bien que les usines à combustible aient fait rapport d'une légère augmentation dans leur production. Cette diminution vient du prix du charbon américain, de la gazoline et de l'huile à brûler. Les usines de l'Ontario montrent une diminution de \$116,048 dans le charbon étranger employé; Québec, \$39,563; Nouveau-Brunswick, \$18,574; Colombie Britannique, \$14,387; Nouvelle-Ecosse, \$4,877 et l'Ile du-Prince Edouard, \$1,248, alors que les autres provinces montrent une légère augmentation.

SOMMAIRE.—Tel que dit plus haut, plus de 97 pour cent de la production globale de toutes les usines a été générée par les stations hydro-électriques. La moyenne de revenu, par kilowatt-heure, reçu par ces stations pour toute l'énergie vendue aux compagnies distributrices, aux manufacturiers, aux individus, etc., a été de .665 centins, comparativement à un revenu moyen de 4.815 centins par kilowatt-heure reçu par les usines employant des engins à vapeur comme force motrice et de 8.93 centins par les usines employant des engins à combustion interne.

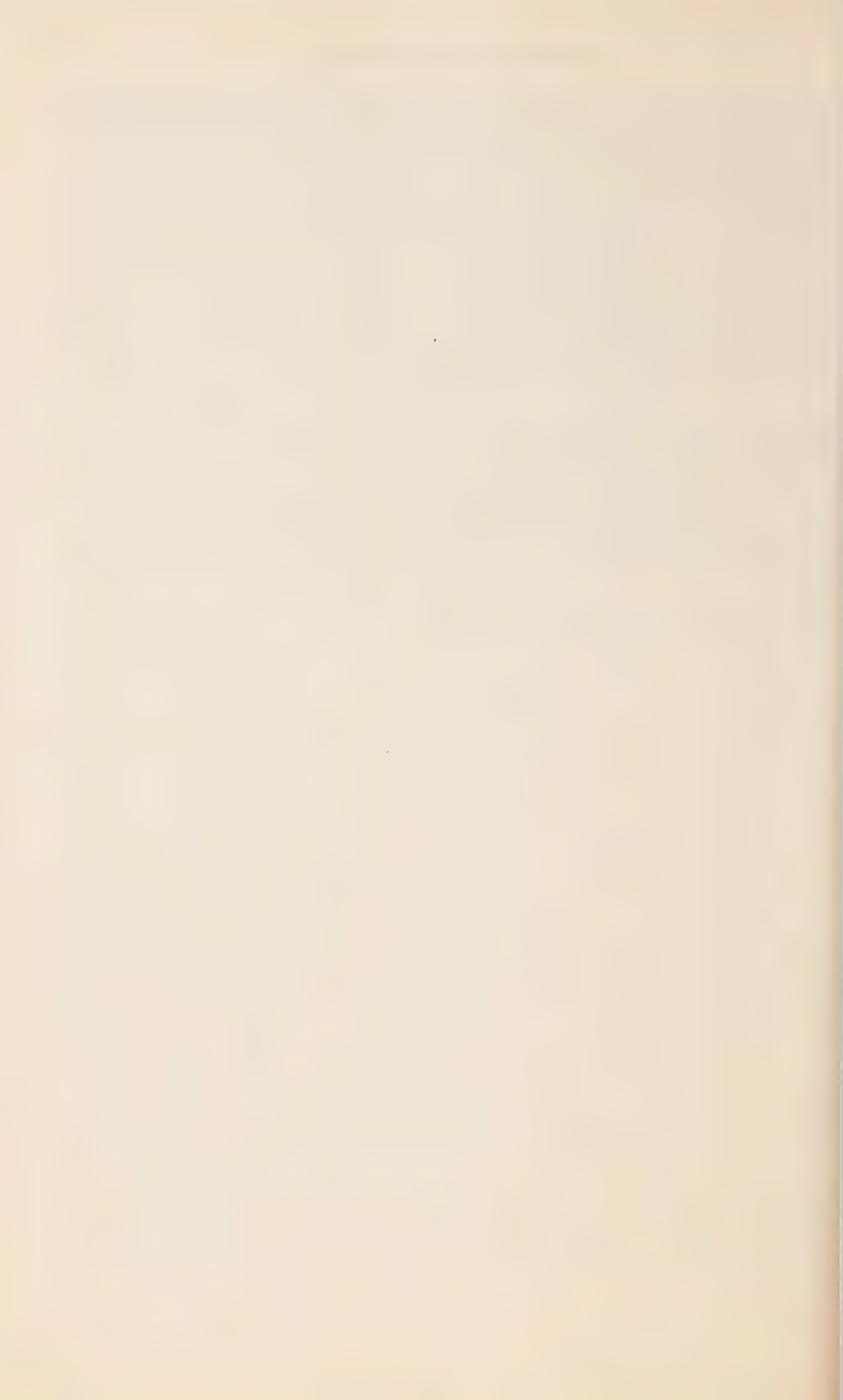
Ces compilations ne couvrent que les usines génératrices. Le prix de l'énergie échangée entre différentes usines génératrices a été déduit du revenu brut et le revenu net a été divisé par le total de l'usine. Vu que la plus grande partie de l'énergie achetée par les usines génératrices venait d'usines hydro-

électriques, cette méthode donne une idée exacte pour ce qui concerne ces dernières, mais absorberait une certaine proportion des profits dans la distribution du pouvoir acheté pour les usines se servant d'engins à vapeur ou à combustion interne. En comparant ces données, il faut se rappeler que, en vendant leur énergie aux compagnies distributrices et aux grands manufacturiers, les usines génératrices s'épargnent les frais de distribution, de sorte que toute autre classe d'usine vendant de grandes quantités de pouvoir à de semblables clients peut vendre à un prix beaucoup plus bas que celui exigé par les usines qui vendent directement et principalement pour la consommation domestique. Les grandes usines hydrauliques, à cause même de leur grandeur, subissent beaucoup plus de variation dans leur charge que les petites usines à vapeur. Elles doivent toujours se tenir au-dessus d'un certain minimum, ce qui leur donne une charge plus stable au jour et à l'année. Elles peuvent, en conséquence, retirer de leur équipement plus plein rendement mieux que les autres usines.

C'est aussi la pratique plus ou moins générale des usines hydrauliques de vendre le pouvoir produit alors que la consommation est moins grande, la nuit, par exemple, à des taux plus bas que ceux du jour, ce qui contribue à diminuer le taux de revenu par unité de production. Il est difficile aux usines à vapeur d'en faire autant vu le coût plus élevé de leur exploitation.

Tout de même, ces données démontrent que de grandes quantités d'énergie électrique sont générées par les pouvoirs d'eau du Canada et sont vendues à des taux comparativement bas.

N.B.—Dans les tableaux 3, 4 et 6, certaines données ont été omises et remplacées par des astérisques. Cela était nécessaire pour éliminer des classes d'usines comprenant moins que trois compagnies.



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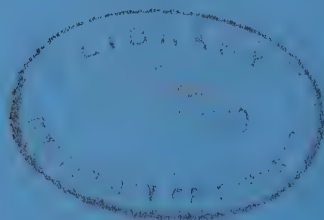
CANADA
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY 1922

CENTRAL ELECTRIC STATIONS IN CANADA

(Prepared in collaboration with the Dominion Water Power Branch, Department of the Interior, with the assistance of the Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, The New-Brunswick Electric Power Commission, The Nova Scotia Power Commission and the Manitoba Power Commission.)

Published by authority of the Hon. Thos. A. Low, M.P., Minister of Trade and Commerce



OTTAWA
F. A. ACLAND
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CENSUS OF INDUSTRY, 1922

CENTRAL ELECTRIC STATIONS

Preface

The sixth annual report on the Central Electric Station Industry of Canada has been compiled by authority of the Statistics Act, 1918 (8-9 George V, Chapter 43), under the direction of Mr. G. S. Wrong, B.Sc., of the Dominion Bureau of Statistics.

The Electricity and Gas Inspection Service Branch, Department of Trade and Commerce; the Dominion Water Power Branch, Department of the Interior; the Hydro-Electric Power Commission of Ontario; and other provincial departments and commissions have assisted in the collection of the schedules. Under the co-operative arrangement between the Bureau and the Dominion Water Power Branch, the schedules and report have been checked, under the direction of Mr. J. T. Johnston, Assistant Director, by Mr. Alexander Roger, Engineer of the Dominion Water Power Branch. The cordial thanks of the Bureau are tendered to the several departments co-operating as above and to the managers of the Central Electric Stations for their promptness in supplying the data.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, March 10, 1924.

NOTE ON CANADIAN WATER-POWERS

Canada is richly endowed with water-power resources. Practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within easy transmission distance ample reserves of water-power. In both the central electric station and pulp and paper industries of Canada hydraulic energy furnishes more than 90 per cent of the prime motive power employed.

The administration of the water resources of the Dominion is a divided federal and provincial responsibility. The Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes and the Department of Public Works, being responsible for the protection of navigation throughout Canada, is directly concerned with power and storage projects on all navigable bodies of water. In Alberta, Saskatchewan, Manitoba, and the Yukon and Northwest Territories, control is vested in the Department of the Interior, Dominion Water-Power Branch. Throughout the remainder of Canada, administration is carried out by the following respective provincial authorities: British Columbia, Department of Lands; Ontario, Department of Lands and Forests; Quebec, Department of Lands and Forests; Nova Scotia, Commissioner of Public Works and Mines; New Brunswick, Department of Lands and Mines; Prince Edward Island, Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission, formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

At the present time many large developments are being rushed to completion. In British Columbia the East Kootenay Power Company is constructing a 15,000 horse-power central electric station, the Granby Consolidated Mining, Smelting and Power Company and the Pacific Mills Limited have added 5,000 horse-power and 6,300 horse-power respectively to their present mining and pulp and paper installations, while the British Columbia Electric Railway Company is preparing to install a 25,000 horse-power unit in its Stave Falls station. The Manitoba Power Company has installed two units of 28,000 horse-power each in its new power-house at Great Falls, Manitoba, and expect to add a third similar unit this year. The City of Winnipeg also intends adding three units totalling 20,700 horse-power to its Point du Bois station. The Hydro-Electric Power Commission of Ontario installed 130,600 horse-power during 1923 bringing its total installation to 746,029 horse-power and expect to have an additional 147,000 horse-power in place before the end of 1924. Power for the mining district of Northern Ontario has been augmented by over 9,000 horse-power, a 4,000 horse-power development being completed by the Lower Sturgeon Power Company and a similar station by the Great Northern Power Company, while additional power has been provided in existing stations. Before the end of 1924 an additional 45,000 horse-power is expected to be available from the Quinze River development of the Northern

Canada Power Company and the Abitibi River development of the Hollinger Consolidated Go'd Mines Limited. In Quebec there has been installed in various central stations some 30,000 horse-power during 1923 and construction work already under way provides for an additional 385,000 by the end of 1924, 280,000 horse-power of which will be in the great power stations of the Quebec Development Company on the Saguenay river and of the St. Maurice Power Company at La Gabelle. The year 1923 has seen substantial additions to existing central electric stations in the Maritime Provinces with further additions promised for 1924.

The Dominion Water-Power Branch, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful reanalysis and computation by the branch, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24 hour power at 80 per cent efficiency		Turbine installation horse-power
	At ordinary minimum flow horse-power	At ordinary 6 months flow horse-power	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	355,517
Alberta.....	475,281	1,137,505	33,067
Saskatchewan.....	513,481	1,087,756	
Manitoba.....	3,270,491	5,769,444	162,025
Ontario.....	4,950,300	6,808,190	1,445,480
Quebec.....	6,915,244	11,640,052	1,116,398
New Brunswick.....	50,406	120,807	44,539
Nova Scotia.....	20,751	128,264	54,950
Prince Edward Island.....	3,000	5,270	2,239
Yukon and Northwest Territories.....	125,220	275,250	13,199
	18,255,316	32,075,998	3,227,414

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available, indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the *minimum water-power possibilities* of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 353 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources, being surpassed on this basis by only Norway and Switzerland. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, February 1, 1924.

CENTRAL ELECTRIC STATIONS

The sixth census of the central electric station industry shows a large increase for the year 1922 in capital and power installed than for any previous year since the statistics were inaugurated. Capital and power are not included in the census until the project is completed or the installation has started operation and for this reason revenues, expenses, output, etc., do not show the same abrupt changes.

The Ontario Hydro-Electric Power Commission's power-house at Queenston was completed towards the end of 1921 and the first wheel put in commercial operation January, 1922, so that this is the first year the statistics of that plant are included in the census. Of the total increase in capital of \$83,399,301 this plant accounted for over \$65,000,000. The three wheels which were put in operation in 1922 aggregated 165,000 horse-power; a fourth wheel was installed in December, 1922; a fifth, early in 1923 and a sixth in December, 1923. This was the largest single addition to the industry during the year, but several other additions were also made.

The larger installations included 10,000 horse-power at Ranney Falls on the Trent river, 2,400 horse-power at Sault St. Marie, Ont., 43,000 horse-power at Shawinigan Falls and 22,000 horse-power at Grand Mere on the St. Maurice river, 13,000 horse-power at Stave Falls, B.C., 7,200 horse-power on the Bull River, Fernie, B.C., 5,700 horse-power steam turbine at Edmonton, 1,000 horse-power steam turbine at Drumheller, Alta., and 6,900 horse-power on the Winnipeg river at Point du Bois. The Manitoba Power Company also completed an installation of 28,000 horse-power of a 168,000 horse-power project on December 28, 1922, which is not included in these data. A water turbine of 2,250 horse-power at Grand Falls was an addition in New Brunswick, and in Nova Scotia, 10,800 horse-power at St. Margaret's Bay were installed by the Nova Scotia Power Commission. Two wheels aggregating 40,000 horse-power of the Ontario Power Company at Niagara Falls were damaged and were not replaced, reducing the power of 1922 accordingly.

The net increase in installed power was 280,541 horse-power in main plants and 16,695 horse-power in auxiliary plants. Steam engines showed a decrease in both number and total capacity from 1921 but water wheels and turbines showed an increase of 285,932 horse-power being by far the greatest increase in any one year since the statistics were first compiled in 1917. These data refer only to the central electric station industry for 1922 and not to water-power development although approximately three-quarters of all water-power developed in the Dominion is employed in this industry.

Over the five-year period, 1918-22, the total increase in capital has been \$166,126,350, or 41 per cent, the largest increase being in the municipal plants where the capital was more than doubled. The large increase for this class of stations was due to the activities of the provincial Commissions of Ontario, Manitoba and Nova Scotia, which are now developing and distributing power.

The revenues showed an increase of \$28,779,733, or 54 per cent. This, however, included certain duplications where power passed through two or three hands before it reached the final consumer. This pertains not only to the electric energy sold by the purely distributing companies, but also to many generating stations which purchased power and resold it, the revenues being included for each sale.

Data on the number of customers was not collected until 1920, so that comparisons for a five-year period are not possible, also the output was compiled for the first time in 1919.

Many small plants have not the equipment to meter their output, but in 1922 a special effort was made to estimate the output of such plants as closely as possible and it is believed that the 1922 figures will represent very accurately the output of the central electric stations in Canada. Although the municipal stations represented over 55 per cent of the total number and 31 per cent of the capacity, in 1922 their output was only 24 per cent of the total output of all stations. The number of customers however, supplied with electric energy by the municipal stations was 55 per cent of the total and the revenues collected was 46 per cent of total revenues. The cost of the Chippewa Queenston development with only the initial wheels operating, the extensive provincial transmission systems and many municipalities purchasing power from commercial stations for distribution were all factors in this high capital investment compared with the amount of energy generated.

STATIONS (Table 3).—By the definition adopted by the Bureau for census purposes, any plant, company or institution selling electric energy is a central electric station. Stations have been divided into two main classes, (1) commercial stations, those operated by private parties and (2) municipal stations, those operated by municipal, provincial and federal governments. Each of these classes have been subdivided into (1) non-generating, stations buying all power which they distribute and (2) generating, stations generating all or part of the power which they sell. Generating stations have again been subdivided into (1) hydraulic, those using water-power as a primary power either solely or supplemented with steam or other power, and (2) fuel, those generating all their power by steam or internal combustion engines.

There were a few cases where non-generating stations had steam auxiliary plants held in reserve to meet emergencies. Of the total number of 269 hydraulic stations, 234 of them depended solely on water-power while 35 or less than 15 per cent used other power either to supplement the water-power or for reserve to meet emergencies. In one instance, the auxiliary equipment had greater capacity than the hydraulic equipment and in a number of the stations, steam equipment was used constantly to supplement the hydraulic power.

The statistics of such equipment in hydraulic stations however, were treated in the census as purely auxiliary power whereas the water wheels of the hydro-electric stations and the equipment in straight fuel stations was classed as main plant equipment. The number of stations equipped with only gas and oil engines (128) was higher than might be expected due to the inclusion of numerous small gasoline lighting units used quite extensively in Saskatchewan and the other prairie provinces. By referring to table 13, it will be noted that the average capacity of internal combustion engines was only slightly over 70 horse-power.

CAPITAL (Table 4).—As explained above, the inclusion of the Queenston plant of the Ontario Hydro-Electric Power Commission greatly increased the capital of the Ontario stations, increasing the per cent of the total for the Dominion from 45.06 per cent in 1921 to 51.53 per cent, so that while all the provinces with the exception of Prince Edward Island showed an increase in the total capital, the per cent of the total in each case showed a decrease. The averages at the foot of the table should be used with caution as the capital includes all costs of transmission and distribution systems of both generating and non-generating stations, materials, cash, trading accounts, etc. The reductions of the averages per unit of power in Quebec was the result of additional wheels being installed in existing stations, increasing the horse-power without a corresponding increase in capital. The new projects in Ontario and Nova Scotia had the reverse effect.

REVENUE (Table 5).—The revenue shown in table 5 is the gross revenue and includes the revenue received from each company for the power sold although in some cases three or four companies handled the same power. The total cost

of power interchanged between stations was \$8,282,908 paid by generating stations and \$11,872,779 paid by non-generating stations, a total of \$20,155,687, which leaves a net revenue of \$62,173,179. The revenue for lighting purposes covers only the revenue received from households, stores, etc. for electricity used for lighting, cooking, etc., whereas the revenue for power purposes includes not only the revenue from commercial customers buying electric energy for power purposes, but also the revenue received from distributing companies for electric energy, which might be sold partly for lighting and partly for power. Deducting the \$20,155,687 for current interchanged between companies, leaves a revenue of \$30,474,678 received for power sold direct to consumers. Over \$12,500,000 of the \$20,155,687 was for electric energy purchased by the municipalities from the Ontario Hydro-Electric Commission and for power purchased by the Commission from the Ontario Power Company which is still operated as a separate organization. The average per kilowatt hour for generating stations shown at the foot of this table is the net revenue of generating stations, that is, the gross revenue less the cost of power purchased, and is not the price at which power was sold to the ultimate consumer. Total or partial exemption of municipal stations from taxation has an effect on these averages and should be considered when making comparisons. Irrespective of this feature, however, the data quite clearly indicates that power is developed far more cheaply in the provinces utilizing extensively water power as the primary power for the industry.

FREE SERVICE (*Table 6*).—Free service is the estimated value of electricity supplied for lighting streets, public buildings, etc., for which no direct recompense is received. With municipal stations this is only a matter of bookkeeping, the lighting department not being credited for its services, and with these stations the amounts could very properly be added to the revenues. It will be noted that the municipal stations reported 86 per cent of the total free service.

EXPENSES (*Table 7*).—The total of \$14,495,250 for salaries and wages shown as expenses contains a certain amount of expenditure that properly should be charged to capital account. The central electric stations as a whole have not found it practicable to separate the salaries and wages paid on extensions and new work although the total expenditure on such extensions is included in the capital. The total wages therefore have been shown as expenses. This does not apply to large installations where the workmen are not the regular operating employees of the station. It will be noted that the cost of power constitutes over 40 per cent of the total expenses of the stations.

EMPLOYEES (*Table 8*). There is very little fluctuation in the number of employees of the central electric station industry, line men, operators, etc., being necessary irrespective of the fluctuations in the load. The number of employees in 1922 showed a slight decrease from 1921 although the output increased. Where employees work only part time, they are considered central electric station employees according to the proportion of the time that they are engaged in the work of the industry.

CUSTOMERS (*Table 9*).—The number of customers is divided between commercial and private; private customers include all private houses, whereas commercial customers include all power customers, stores, hotels, churches, or all customers other than private houses. The averages of the number of private customers per hundred of population gives a very fair idea of the extent to which electricity is used in private houses for lighting, cooking, etc. British Columbia's high average of 14.41 per hundred of population is, to some extent, due to the concentration of the population of that province in the Vancouver and Victoria districts, the population of Vancouver and suburbs, New Westminster and Victoria which are served by large hydro-electric stations, constituting 41 per cent of the total of the province. Ontario ranks second with 12.06, Quebec

third, with 11.20, and Manitoba fourth, with 9.55 per hundred of population. The provinces which derive the major portion of their electricity from fuel stations show much the lower averages.

POLE LINE MILEAGE (*Table 10*).—Distribution pole line mileage is credited with all pole line mileage between generating stations and consumers where the power is not stepped up for transmission but transmitted at the generated voltage, and it also includes all pole lines carrying both primary and secondary circuits. The growth of the pole line mileage is a fair indication of the steady advancement of the service into new territories. During 1922 this growth amounted to 4 per cent although the mileage belonging to fuel stations showed a decrease.

EQUIPMENT (*Table 11*).—The total primary power including power of both main and auxiliary plants was 2,408,655 horse-power, nearly 88 per cent of which was hydraulic, the other 12 per cent being steam and internal combustion engines. Practically all the secondary power was alternating current. Many of the D.C. dynamos are run in connection with gasoline lighting units and in Saskatchewan where this type of equipment is used quite extensively, there were 71 D.C. dynamos with an average capacity of 25 K.W. whereas the A.C. dynamos in that province numbered only 78 but with an average capacity of 550 K.V.A. The larger D.C. dynamos throughout the Dominion were used almost exclusively for street railway operation.

AUXILIARY PLANT EQUIPMENT (*Table 12*).—One of the prominent features of the auxiliary plant equipment was the steam turbines, which had an aggregate capacity of 129,110 horse-power, or 86 per cent of the total primary power, internal combustion engines were used very little in the auxiliary plants, being confined almost solely to small lighting plants.

MAIN PLANT EQUIPMENT (*Table 13*).—The primary power of the main plant equipment showed an increase over 1921 of 14 per cent and practically all of this increase was in water wheels and turbines, steam turbines and steam reciprocating engines both showing decreases, and gas and oil engines showing only a slight increase. The increase in the primary power of commercial stations was 8 per cent whereas the increase for municipal stations was 30 per cent. The addition of the Queenston plant with 165,000 horse-power accounted for practically all of this latter increase.

MAIN PLANT EQUIPMENT CLASSIFIED (*Table 14*).—This table shows the total equipment of main plant classified according to manufacturers rating and very clearly indicates where different sized units were located. It will be noted that the 83 water wheels ranging from 10,000 horse-power to 55,000 horse-power aggregated 1,293,900 horse-power, or over 60 per cent of the total. These units were located in British Columbia, Ontario and Quebec, 64 of them with a capacity of 915,700 horse-power being in commercial stations. Of the 225 internal combustion engines, 118 were located in Saskatchewan where no water power was used in this industry.

ELECTRIC ENERGY GENERATED (*Table 15*).—The total output of generating stations metered at the stations is shown in this table. Where stations had no meters, an estimate was made as closely as possible, so that the output shown is the total amount of electric energy generated by central electric stations in Canada. Under "K.W. Hours. generated by non-generating stations," is included the output of a few stations operating a short period as generating stations which later ceased operating their power plants and purchased power from other stations for resale and consequently were classed in the census as non-generating stations. Also a few non-generating stations held generating

equipment in reserve which was operated for a short period. The output of these stations was kept separate so as not to distort comparisons between classes of generating stations.

Over 97 per cent of the output of all stations was generated by hydro-electric stations and 75 per cent of the total output was from commercial hydro-electric stations. The ratios of output to maximum capacity is the total output divided by the product of the K.V.A. capacity and 8,760 hours and the average K.W. Hours per K.V.A. is also the output divided by the dynamo capacity. When it is considered that these ratios are based on a twenty-four hour operation each day in the year and 100 per cent power factor, a ratio to maximum capacity of 45 per cent to 48 per cent is exceedingly high. It will be noted that these high ratios were attained only in the hydro-electric stations.

FUEL (*Table 16*).—Since over 97 per cent of the electricity generated by central electric stations was produced by hydro-electric stations, the fuel bill of the industry as a whole was consequently comparatively small. Saskatchewan, which used no water-power in the industry at all had much the highest bill although the output of that province was less than one per cent of the total output for Canada. This table includes the fuel used in both straight fuel plants and by the fuel equipment of hydro-electric plants. The value of fuel consumed by the latter was: Alberta, \$45,624; British Columbia, \$101,467; New Brunswick, \$1,554; Nova Scotia, \$92,120; Ontario, \$206,539; Prince Edward Island, \$439; Quebec, \$29,482; Yukon, \$100. Fuel oil was used most extensively in British Columbia where it was imported, and gas, in Alberta, where it was consumed under boilers of steam engines and also in internal combustion engines.

NOTE.—In tables 4, 5 and 7, certain data have been omitted and asterisks inserted. This was necessary to obscure these data pertaining to classes of stations comprised of less than three companies.

Table 1—Comparative Summary, 1922-1918

Tableau 1—Résumé comparatif, 1922-1918

Principal Data by Class of Station Données principales par classes d'usines		1922	1921	1920	1919	1918	Per Cent increase 1922 over 1918 — Pourcentage d'augmen- tation de 1922 sur 1918
Stations—	Usines—						
Total	Total	905	857	819	805	795	13.8
Hydraulic	Hydrauliques	269	259	258	272	280	3.9
Fuel	A combustible	253	251	248	221	235	7.7
Non-generating	Non productrices	383	347	313	312	280	36.8
Commercial	Commerciales	401	377	379	358	377	6.4
Municipal	Municipales	504	480	440	447	418	20.6
Capital—	Capitaux—						
Total	Total	568,068,752	484,669,451	448,273,642	416,512,010	401,942,402	41.3
Commercial	Commerciales	326,448,922	327,439,827	311,160,342	287,558,443	288,151,605	13.3
Municipal	Municipales	241,619,830	157,229,624	137,113,300	128,953,567	113,790,797	112.3
Generating	Productrices	484,635,750	410,382,619	380,372,831	365,389,364	364,653,246	32.9
Non-generating	Non productrices	83,433,002	74,286,832	67,900,811	51,122,646	37,289,156	123.8
Revenue—	Recettes—						
Total	Total	82,328,866	73,376,580	65,705,060	57,853,392	53,549,133	53.7
Commercial	Commerciales	44,776,945	42,713,327	39,904,747	35,552,867	33,190,882	34.9
Municipal	Municipales	37,551,921	30,663,253	25,800,313	22,300,525	20,358,251	84.5
Generating	Productrices	56,385,731	52,446,929	48,042,642	45,420,566	42,201,435	33.6
Non-generating	Non productrices	25,943,135	20,930,651	17,662,418	12,432,826	11,347,698	128.6
Expenses—	Dépenses—						
Total	Total	49,962,644	47,044,503	45,100,946	34,341,923	30,265,864	65.1
Commercial	Commerciales	22,988,298	24,943,355	24,692,105	19,201,892	16,851,623	36.4
Municipal	Municipales	26,974,346	22,101,148	20,408,841	15,140,031	13,414,241	101.1
Generating	Productrices	29,331,675	29,389,443	29,684,712	24,281,570	22,640,656	29.6
Non-generating	Non productrices	20,630,969	17,655,060	15,416,234	10,060,353	7,625,208	170.6
Pole Line Mileage—	Lignes sur poteaux—						
Total	Total	22,669	21,714	20,879	20,466	—	—
Commercial	Commerciales	11,123	10,987	10,721	10,784	—	—
Municipal	Municipales	11,546	10,727	10,158	9,682	—	—
Generating	Productrices	13,927	13,460	13,651	14,111	—	—
Non-generating	Non productrices	8,742	8,254	7,228	6,355	—	—
Customers—	Abonnés—						
Total	Total	1,053,545	973,212	894,158	—	—	—
Private houses	Particuliers	889,346	830,062	764,907	—	—	—
Commercial	Commerçants	164,199	143,150	129,251	—	—	—
Comm. stations	Commerciales	476,285	466,235	437,672	—	—	—
Municipal Stat.	Municipales	577,260	506,977	456,486	—	—	—
Generating	Productrices	533,923	531,643	504,026	—	—	—
Non-generating	Non productrices	519,622	441,569	390,132	—	—	—
Electric Energy Gen-Énergie électrique erated— produite—							
Total kilowatt hours (thousand)	K.W. heures pro- duit (milles)	*6,740,750	5,614,132	5,894,867	5,497,204	—	—
Commercial	Commerciales	5,119,676	4,316,272	4,456,428	4,191,223	—	—
Municipal	Municipales	1,621,074	1,297,860	1,438,439	1,305,981	—	—
Equipment in generating stations (main Plant only).							
Machinerie dans les usines productrices (Machines des usines principales)							
Total primary power	H.P.	2,258,398	1,977,857	1,897,024	1,907,135	1,841,114	22.6
Water-wheels and turbines	No.	629	604	594	610	620	1.5
Turbines et roues hydrauliques	H.P.	2,112,289	1,826,357	1,754,130	1,736,981	1,682,191	25.6
Steam reciprocating engines	No.	175	187	196	198	218	—19.7
Machines à vapeur	H.P.	40,454	45,450	49,430	53,068	54,784	—26.1
Steam turbines	No.	41	43	37	38	37	10.8
Turbines à vapeur	H.P.	89,545	90,705	80,750	102,865	90,853	1.4
Internal combustion engines	No.	225	203	179	136	134	67.9
Moteurs à gaz et à pétrole	H.P.	16,080	15,345	12,714	14,221	13,286	21.0
Total in commercial stations	H.P.	1,565,229	1,443,533	1,415,488	1,428,918	1,434,196	9.1
Total dans les usines commerciales	H.P.	693,169	534,324	481,536	478,217	406,918	70.3
Total in municipal stations	H.P.	693,169	534,324	481,536	478,217	406,918	70.3
Total dans les usines municipales	H.P.	693,169	534,324	481,536	478,217	406,918	70.3
Total secondary power	K.V.A.	1,736,199	1,475,610	1,451,829	1,487,790	1,433,722	21.1
Total force motrice secondaire	K.V.A.	1,736,199	1,475,610	1,451,829	1,487,790	1,433,722	21.1
Dynamos A.C.	No.	857	841	817	836	849	—9
Dynamos C.A.	K.V.A.	1,725,831	1,464,022	1,439,937	1,474,969	1,421,228	21.4
Dynamos D.C.	No.	181	172	165	128	141	28.4
Dynamos C.D.	K.W.	10,368	11,588	11,892	12,821	12,494	—17.0
Total in commercial stations	K.V.A.	1,210,947	1,086,128	1,078,611	1,112,494	1,118,438	8.27
Total dans les usines commerciales	K.V.A.	525,252	389,482	373,218	375,296	315,284	66.6
Total in municipal stations	K.V.A.	525,252	389,482	373,218	375,296	315,284	66.6
Total dans les usines municipales	K.V.A.	525,252	389,482	373,218	375,296	315,284	66.6

*Estimates for stations not reporting output included in 1922 only.

*Estimation pour usines ne faisant pas rapport de leur production donnée seulement pour 1922.

CENSUS OF INDUSTRY

Table 2—Summary of Principal Data 1922-1921

	Total		Commercial Commerciales		Municipal Municipales	
	1922	1921	1922	1921	1922	1921
	1	2	3	4	5	6
Total Number of Stations	905	857	401	377	504	490
No. of hydraulic stations.....	269	259	196	189	73	70
No. of fuel stations.....	253	251	130	128	123	123
No. of non-generating stations.....	383	347	75	60	308	287
Total Capital	568,068,752	484,669,451	326,448,922	327,439,827	241,619,830	157,229,624
Lands, buildings and fixtures.....	264,874,514	193,711,524	143,635,081	141,659,321	121,239,433	52,052,203
Equipment.....	129,593,729	118,184,399	87,400,905	85,167,968	42,192,824	33,016,431
Distribution and transmission system.....	113,582,085	111,858,623	49,113,791	53,906,598	64,468,294	57,951,625
Materials on hand and miscellaneous supplies.....	10,087,701	9,632,639	4,997,347	4,724,239	5,090,354	4,908,400
Cash, trading and operating accounts, etc.....	49,930,723	51,282,266	41,301,798	41,981,301	8,628,925	9,300,965
Total Revenue from Sale of Power	82,328,866	73,376,580	44,776,945	42,713,327	37,551,921	30,663,253
For lighting purposes.....	31,698,501	28,797,359	14,806,089	14,870,749	16,892,412	13,926,610
For all other purposes.....	50,630,365	44,579,221	29,970,856	27,842,578	20,659,509	16,736,643
Free Service (value at commercial rates)	277,039	259,524	37,661	36,485	239,378	223,029
Total Operating Expenses	49,962,644	47,044,503	22,988,298	24,943,355	26,974,346	22,101,148
Salaries and wages.....	14,495,250	15,234,678	6,551,084	7,005,590	7,944,166	8,229,088
Fuel.....	2,676,556	3,024,930	1,270,963	1,453,927	1,405,593	1,571,093
Cost of power.....	20,155,687	18,784,895	6,882,604	6,882,604	13,273,083	12,301,057
Miscellaneous.....	12,635,151	28,784,895	8,283,647	16,483,838	4,351,504	
Total Number of Employees	10,684	10,714	4,994	5,119	5,690	5,595
Total Mileage of Pole Lines	22,669	21,714	11,123	10,987	11,546	10,727
For transmission.....	8,296	7,922	4,479	4,214	5,817	3,708
For distribution.....	14,373	13,792	6,644	6,773	7,729	7,019
Total Number of Customers	1,053,545	973,212	476,285	466,235	577,260	506,977
Commercial.....	164,199	143,150	67,530	64,355	96,689	78,795
Private houses.....	889,346	830,062	408,755	401,880	480,591	428,182
Total Kilowatt Hours Generated (thousands)	6,740,750	5,614,132	5,119,676	4,316,272	1,621,074	1,297,860
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial Commerciales		Municipal Municipales	
	1922	1921	1922	1921	1922	1921
	1	2	3	4	5	6
Total Primary Power H.P.	2,258,398	1,977,857	1,565,229	1,443,533	693,169	534,324
Water-Wheels and turbines..... No.	629	604	470	453	159	151
..... H.P.	2,112,289	1,826,357	1,531,847	1,398,672	580,442	427,685
Steam reciprocating engines..... No.	175	187	85	95	90	92
..... H.P.	40,484	45,450	17,823	22,272	22,661	23,178
Steam turbines..... No.	41	43	14	17	27	26
..... H.P.	89,545	90,705	11,434	19,294	78,111	71,411
Gas and oil engines..... No.	225	203	118	103	107	100
..... H.P.	16,080	15,345	4,125	3,295	11,955	12,050
Total Secondary Power K.V.A.	1,736,199	1,475,610	1,210,947	1,086,128	525,252	389,482
Dynamos, A.C..... No.	857	841	520	506	337	335
..... K.V.A.	1,725,831	1,464,022	1,204,624	1,078,515	521,207	385,507
Dynamos, D.C..... No.	181	172	138	137	43	35
..... K.W.	10,368	11,588	6,323	7,613	4,045	3,975

Tableau 2—Résumé comparatif des données principales, 1922-1921

Generating Productrices				Non-Generating Non-productrices				Per Cent of Column 1. Pour-cent de la 1ère col.				
1922		1921		1922		1921		Com- mer- ciales 1922	Mu- ni- ci- pales 1922	Gen- er- at. Prod. 1922	Non Gen Prod. 1922	
7	8	9	10	11	12	13	14					
522	510	383	347	44.3	55.7	57.7	42.3	Nombre total des usines				
269	259	—	—	72.9	27.1	100.0	—	Nombre des usines hydrauliques				
253	251	—	—	51.4	48.6	100.0	—	Nombre des usines à combustibles				
—	—	383	347	19.6	80.4	—	100.0	Nombre des usines non productrices				
484,635,750	410,382,619	83,433,002	74,286,832	57.5	42.5	85.3	14.7	Total des capitaux				
255,630,252	185,114,974	9,244,262	8,596,550	54.2	45.8	96.5	3.5	Terrains bâtiments et installations				
116,483,081	113,220,061	13,110,648	4,964,338	67.4	32.6	89.9	10.1	Machinerie				
65,470,899	63,660,328	48,111,186	48,198,295	43.2	56.8	57.6	42.4	Réseaux de distribution et de transm.				
6,127,058	5,598,245	3,960,643	4,034,394	49.5	50.5	60.7	39.3	Matières premières et approvisionnement.				
40,924,460	42,789,011	9,006,263	8,493,255	82.7	17.3	82.0	18.0	Fonds de roulement, caisse, etc.				
56,385,731	52,445,929	25,943,135	20,930,651	54.4	45.6	68.5	31.5	Total des rec. prod. par l'élec., vendue				
16,249,651	16,230,893	15,448,850	12,566,466	46.7	53.3	51.3	48.7	Pour l'éclairage.				
40,136,080	36,215,036	10,494,285	8,364,185	59.2	40.8	79.3	20.7	Pour tous autres usages				
190,249	203,784	86,790	55,730	13.6	86.4	68.7	31.3	Serv. gratuit (val. au prix du commerce)				
29,331,675	29,389,443	20,630,969	17,655,060	46.0	54.0	58.7	41.3	Total des dépenses d'exploitation				
8,468,338	9,019,404	6,026,912	6,215,184	45.2	54.8	58.4	41.6	Traitements, appoint., et salaires				
2,533,589	3,017,272	122,967	7,658	47.5	52.5	95.4	4.6	Combustible				
8,282,908	17,352,677	11,872,779	11,432,218	34.1	65.9	41.1	58.9	Achat de force motrice électrique				
10,026,840		2,608,311		65.6	34.4	79.4	20.6	Dépenses diverses				
6,237	6,426	4,447	4,288	46.7	53.3	58.4	41.6	Nombre total du personnel				
13,927	13,460	8,742	8,254	49.1	50.9	61.4	38.6	Long. en milles des lignes sur poteaux				
7,068	6,640	1,228	1,282	54.0	46.0	85.2	14.8	De transmission				
6,859	6,820	7,514	6,972	46.2	53.8	47.7	52.3	De distribution				
533,923	531,643	519,622	441,459	45.2	54.8	50.7	49.3	Nombre total des abonnés des usines				
68,672	66,052	95,527	77,098	41.1	58.9	41.8	58.2	Commerçants				
465,251	465,591	424,095	364,471	46.0	54.0	52.3	47.7	Particuliers				
6,727,674	5,614,132	13,076	—	76.0	24.0	99.8	-2	Total des kilowatt-heures produits (milliers)				
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)								Total Power Equipment in Auxiliary Plants				
Per Cent of Columns 1 & 2 Pourc. des col. 1 et 2				Per cent of totals of Columns 3, 4, 5 & 6 Pourc. des col. 3, 4, 5 et 6				— Machines des usines auxiliaires				
Commercial		Municipal		Commercial		Municipal						
1922	1921	1922	1921	1922	1921	1922	1921	1922	1921			
7	8	9	10	11	12	13	14	15	16			
69.3	73.0	30.7	27.0	100.0	100.0	100.0	100.0	150,257	133,562		Total, force motrice primaire, H.P.	
74.7	75.0	25.3	25.0	—	—	—	—	—	—		Turbines et roues hydrauliques nomb.	
72.5	76.6	27.5	23.4	97.9	96.9	83.7	80.0	—	—		H.-P.	
48.6	50.8	51.4	49.2	—	—	—	—	49	34		Machines à vapeur..... nomb.	
44.0	49.0	56.0	51.0	01.1	01.6	3.3	4.3	20,476	13,436		H.-P.	
34.1	39.5	65.9	60.5	—	—	—	—	31	26		Turbines à vapeur..... nomb.	
12.8	21.3	87.2	78.7	00.7	01.3	11.3	13.4	129,110	119,600		H.-P.	
52.4	50.7	47.6	49.3	—	—	—	—	7	5		Moteur à gaz et à pétrole..... nomb.	
25.7	21.5	74.3	78.5	00.3	00.2	1.7	2.3	671	526		H.-P.	
69.7	73.6	30.3	26.4	100.0	100.0	100.0	100.0	122,214	107,490		Total, force motrice secondaire K.V.A	
60.7	60.2	39.3	39.8	—	—	—	—	72	52		Dynamos, C.A..... nomb.	
69.8	73.7	30.2	26.3	99.5	99.3	99.2	99.0	120,534	1,073,340		K.V.A.	
76.2	79.7	23.8	20.3	—	—	—	—	5	1		Dynamos, C.D..... nomb.	
61.0	65.7	39.0	34.3	0.5	0.7	.8	1.0	1,680	150		K.W.	

Table 3—Stations, 1922

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
	1	2	3	4	5	6
Total Number of Stations.....	905	69	58	33	31	55
Per cent of total for Canada.....	100	7.62	6.40	3.64	3.42	6.07
Commercial Stations.....	401	37	34	11	22	31
Non-generating.....	75	5	6	3	3	10
Generating.....	326	32	28	8	19	21
Hydraulic.....	196	4	20	2	7	8
Fuel.....	130	28	8	6	12	13
Municipal Stations.....	504	32	24	22	9	24
Non-generating.....	308	4	8	7	3	6
Generating.....	196	28	16	15	6	18
Hydraulic.....	73	—	7	2	2	10
Fuel.....	123	28	9	13	4	8
Total Number of Non-Generating Stations	383	9	14	10	6	16
Total Number of Generating Stations.....	522	60	44	23	25	39
Hydraulic stations.....	269	4	27	4	9	13
Fuel stations.....	253	56	17	19	16	21
With water-wheels and turbines only....	234	3	21	1	7	16
With water-wheels and turbine and fuel auxiliary equipment.....	35	1	6	3	2	2
With steam engines only.....	98	31	10	9	8	14
With steam turbines only.....	9	—	1	—	1	3
With gas or oil engines only.....	128	17	6	10	4	2
With both steam engines and turbines..	10	4	—	—	1	2
With both steam and gas or oil engines..	7	3	—	—	2	—
With both steam turbines and gas or oil engines.....	1	1	—	—	—	—
With Alternating current dynamos only..	405	41	40	16	19	34
With Direct current dynamos only.....	109	17	4	7	5	4
With both Alternating and Direct current dynamos.....	8	2	—	—	1	1

Table 4—Capital, 1922

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
	1	2	3	4	5	6
Total Capital.....	568,068,752	13,904,119	48,036,882	23,011,790	4,986,933	8,304,858
Per cent of total for Canada.....	100	2.45	8.46	4.05	.88	1.46
In lands, buildings and fixtures.....	264,874,514	4,348,105	21,274,794	6,917,558	1,699,731	2,784,136
Equipment.....	129,593,729	5,464,001	9,921,938	4,975,465	1,492,307	2,497,722
Distribution and transmission lines..	113,582,085	3,327,716	13,461,165	10,114,581	1,304,492	2,611,224
Materials and supplies.....	10,087,701	258,682	1,125,215	455,735	155,987	72,811
Cash, trading accounts, etc.....	49,930,723	505,615	2,253,770	551,451	334,416	338,965
Total Capital in Commercial Stations.....	326,448,922	6,563,107	45,382,334	7,436,319	4,437,043	4,835,760
Non-generating.....	22,216,946	102,384	7,351,312	***	31,368	2,279,381
Generating.....	304,231,976	6,460,723	38,031,022	***	4,405,675	2,556,379
Hydraulic.....	297,400,840	5,632,172	37,915,826	***	1,649,787	588,858
Fuel.....	6,831,136	828,551	115,196	46,033	2,755,888	1,967,521
Total Capital in Municipal Stations.....	241,619,830	7,341,012	2,654,548	15,578,411	549,890	3,469,098
Non-generating.....	61,216,056	22,489	513,472	1,874,019	92,995	147,826
Generating.....	180,403,774	7,318,523	2,141,076	13,704,422	456,895	3,321,272
Hydraulic.....	162,307,313	.....	1,488,925	13,231,601	200,641	2,802,108
Fuel.....	18,096,461	7,318,523	652,151	472,821	256,254	519,164
Total Capital in Non-Generating Stations	83,433,002	124,873	7,864,781	***	124,363	2,427,207
Total Capital in Generating Stations.....	484,635,750	13,779,246	40,172,098	***	4,862,570	5,877,651
Hydraulic.....	459,708,153	5,632,172	39,404,751	***	1,850,428	3,390,966
Fuel.....	24,927,597	8,147,074	767,347	***	3,012,142	2,486,685
Average per H.P. of primary power.....	252	158	206	249	212	300
Average per H.P. including auxiliary equip- ment.....	236	153	185	220	203	226
Average per K.V.A. of dynamo capacity....	327	203	314	305	296	382
Average per K.V.A., including auxiliary equipment.....	306	197	277	267	286	278

Tableau 3—Usines, 1922

Ontario 7	Prince Edward Is. — Ile du Pr.- Edouard 8	Quebec 9	Saskat- chewan 10	Yukon 11	
396 43-71	11 1-21	154 17-00	95 10-49	3 0-44	Nombre total des usines. Pourcentage dans chaque province
93 16 77 68 9	10 1 9 7 2	114 30 84 79 5	46 — 46 — 46	3 1 2 1 1	Usines commerciales Non productrices Productrices Hydrauliques A combustible
303 256 47 37 10	1 — 1 — 1	40 21 19 15 4	49 3 46 — 46	— — — — —	Usines municipales Non productrices Productrices Hydrauliques A combustible
272 124 105 19	1 10 7 3	51 103 94 9	3 92 — 92	1 2 1 1	Nombre total des usines non productrices Nombre total des usines productrices Hydrauliques A combustible
94 11 11 8 — — — 107 16 1	5 2 — — 1 — — 8 2 —	86 8 4 1 4 — — 95 6 2	— — 10 3 76 3 — 44 47 1	1 — 1 — — — — 1 1 —	Avec roues et turbines hydrauliques seulement Avec roues et turbines hydrauliques, plus usines auxi- liaires Avec machines à vapeur seulement Avec turbines à vapeur seulement Avec moteur à gaz ou à pétrole seulement Avec machines et turbines à vapeur à la fois Avec machines à vapeur à gaz et à pétrole Avec turbines à vapeur et moteur à gaz et à pétrole Avec dynamos à courant alternatif seulement Avec dynamos à courant direct seulement
					Avec dynamos à courant alternatif et direct

Tableau 4—Capitaux, 1922

Ontario 7	Prince Edward Is. — Ile du Prince Edouard 8	Quebec 9	Saskat- chewan 10	Yukon 11	
292,715,690 51-53	487,755 -08	167,128,587 28-42	8,022,915 1-41	1,466,223 -26	Total des capitaux Pourcentage dans chaque province
150,330,093 53,031,550 61,010,752 4,572,298 23,770,997	35,200 307,973 113,600 16,492 14,490	75,839,845 47,412,616 18,870,991 3,175,890 21,829,245	991,408 4,059,916 2,622,060 183,010 166,521	653,644 430,241 145,504 71,581 165,253	Terrains, bâtiments et installations Machinerie Réseaux de transmission et de distribution Matières premières et approvisionnements Fonds de roulement, caisse, etc.
94,260,388 2,957,802 91,303,086 91,152,186 150,900	438,233 *** *** *** ***	161,098,883 8,720,459 152,378,424 152,304,145 74,279	530,102 — 530,102 — 530,102	1,466,223 *** *** *** ***	Total des capitaux dans les usines commerciales Non productrices Productrices Hydrauliques A combustible
198,454,802 57,713,966 140,740,836 140,524,831 216,005	49,522 — 49,522 — 49,522	6,029,704 805,423 5,224,281 4,059,207 1,165,074	7,492,813 45,866 7,446,947 — 7,446,947	— — — — —	Total des capitaux dans les usines municipales Non productrices Productrices Hydrauliques A combustible
60,671,768 232,043,922 231,677,017 366,905	*** *** *** ***	9,525,882 157,602,705 156,363,352 1,239,353	45,866 7,977,049 — 7,977,049	*** *** *** ***	Total des capitaux dans les usines non productrices Total des capitaux dans les usines productrices Hydrauliques A combustible
301 282 389 363	276 266 330 330	220 211 280 268	156 156 179 179	*** *** *** ***	Moyenne par H.P. de la machinerie d'énergie primaire Moyenne par H.P. y compris machinerie auxiliaire Moyenne par K.V.A. de la capacité des dynamos Moyenne par k.v.a.y. compris machinerie auxiliaire

Table 5—Revenue, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Revenue from Sale of Power	82,328,866	3,100,685	7,567,964	3,397,610	1,357,772	2,159,433
Per cent of total for Canada.....	100	3.77	9.19	4.13	1.65	2.62
For lighting purposes.....	31,698,501	2,055,453	3,391,790	2,432,018	873,512	1,519,368
For all other purposes.....	50,630,365	1,045,232	4,176,174	965,592	484,260	640,071
Revenue of Commercial Stations	44,776,945	787,012	6,725,341	1,329,061	1,221,889	1,753,161
Non-generating.....	8,151,579	23,502	2,841,616	***	11,375	930,083
Generating.....	36,625,366	763,510	3,883,725	***	1,210,514	823,078
Hydraulic.....	34,333,768	461,979	3,831,922	***	375,195	99,682
Fuel.....	2,291,589	301,531	51,803	21,362	835,319	723,396
Revenue of Municipal Stations	37,551,921	2,313,673	842,623	2,068,549	135,883	406,278
Non-generating.....	17,791,556	31,636	243,999	274,293	35,257	59,551
Generating.....	19,760,365	2,282,037	598,624	1,794,256	100,626	346,727
Hydraulic.....	14,023,331	—	359,906	1,600,887	25,389	148,025
Fuel.....	5,737,034	2,282,037	238,718	193,369	75,237	198,702
Revenue of Non-Generating Stations	25,943,135	55,138	3,085,615	***	46,632	989,634
Revenue of Generating Stations	56,385,731	3,045,547	4,482,349	***	1,311,140	1,169,805
Hydraulic.....	48,357,099	461,979	4,191,828	***	400,584	247,707
Fuel.....	8,028,632	2,583,568	290,521	***	910,556	922,098
Average Revenue of Generating Stations per H.P. of primary power.	24.97	34.54	19.20	32.43	55.84	42.23
Average Revenue of Generating Stations per H.P. in main and aux. plants.	23.41	33.64	17.22	28.60	53.40	31.78
Average Revenue of Generating Stations per K.V.A. of dynamo capacity.	32.48	44.57	29.33	39.60	77.83	53.76
Average Revenue of Generating Stations per K.V.A. in main and aux. plants.	30.34	43.24	25.85	34.75	75.17	39.11
Average Revenue per K.W. hour of Gene- rating Stations (cents)......	.715	2.335	.749	1.141	3.490	3.836

Table 6—Free Service, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Estimated Value	277,039	9,372	50,550	2,856	26,869	14,318
Per cent of total for Canada.....	100	3.38	18.25	1.03	9.70	5.17
Commercial Stations	37,661	2,987	2,190	39	969	89
Non-generating.....	1,624	—	1,112	—	—	—
Generating.....	36,037	2,987	1,078	39	969	89
Hydraulic.....	31,056	—	—	—	525	—
Fuel.....	4,981	2,987	1,078	39	444	89
Municipal Stations	239,378	6,385	48,360	2,817	25,900	14,229
Non-generating.....	85,166	300	5,914	—	400	1,800
Generating.....	154,212	6,085	42,446	2,817	25,500	12,429
Hydraulic.....	94,227	—	23,784	—	25,000	888
Fuel.....	59,985	6,085	18,662	2,817	500	11,541
Free Service in Non-Generating Stations	86,790	300	7,026	—	400	1,800
Free Service in Generating Stations	190,249	9,072	43,524	2,856	26,469	12,518
Hydraulic.....	125,283	—	23,784	—	25,525	888
Fuel.....	64,966	9,072	19,740	2,856	944	11,630

Tableau 5—Recettes, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
40,400,551	115,705	21,514,289	2,596,769	118,082	Total des recettes produits par l'électricité vendue
49.07	.14	26.13	3.16	.14	Pourcentage dans chaque province
11,654,009	101,402	7,756,815	1,857,040	57,094	Pour l'éclairage
28,746,542	14,303	13,757,474	739,729	60,988	Pour tous autres usages.
12,150,530	92,528	20,384,007	215,334	118,082	Recettes des usines commerciales
1,594,413	***	2,584,737	—	***	Non productrices
10,556,117	***	17,799,270	215,334	***	Productrices
10,530,342	***	17,772,594	—	***	Hydrauliques
25,775	***	26,676	215,334	***	A combustible
28,250,021	23,177	1,130,282	2,381,435	—	Recettes des usines municipales
16,832,975	—	291,168	22,677	—	Non productrices
11,417,046	23,177	839,114	2,358,758	—	Productrices
11,344,225	—	544,899	—	—	Hydrauliques
72,821	23,177	294,215	2,358,758	—	A combustible
18,427,388	***	2,875,905	22,677	***	Recettes des usines non productrices
21,973,163	***	18,638,384	2,574,092	***	Recettes des usines productrices
21,874,567	***	18,317,493	—	***	Hydrauliques
98,596	***	320,891	2,574,092	***	A combustible
22.61	65.10	24.58	50.07	***	Moy. des recettes des usines prod. par h.p. de machinerie primaire
21.18	62.75	23.56	50.07	***	Moy. des recettes des usines prod. par h.p. des usines principales et auxiliaires
29.23	77.68	31.23	57.57	***	Moy. des recettes des usines prod. par k.v.a. de la capac. des dynamos
27.29	77.68	29.89	57.57	***	Moy. des recettes des usines prod. k.v.a. des usines principales et auxiliaires
.538	8.404	.610	4.411	***	Moy. du revenu par k.w. heure des stations generatrices dont la prod. est connue

Tableau 6—Service gratuit, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
41,987	36	111,627	16,424	—	Valeur estimative totale
16.24	.01	40.29	5.93	—	Pourcentage dans chaque province
19,477	36	11,580	294	—	Usines commerciales
12	—	500	—	—	Non productrices
19,465	36	11,080	294	—	Productrices
19,465	36	11,030	—	—	Hydrauliques
—	—	50	294	—	A combustible
25,510	—	100,047	16,130	—	Usines municipales
17,065	—	59,637	—	—	Non productrices
8,445	—	40,360	16,130	—	Productrices
6,045	—	38,510	—	—	Hydrauliques
2,400	—	1,850	16,130	—	A combustible
17,077	—	60,187	—	—	Usines non productrices
27,910	36	51,440	16,424	—	Usines productrices
25,510	36	49,540	—	—	Hydrauliques
2,400	—	1,900	16,424	—	A combustible

Table 7—Expenses, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Expenses	49,962,644	1,748,705	4,133,880	1,746,558	769,985	1,500,216
Per cent of total for Canada.....	100	3.50	8.27	3.50	1.54	3.00
Salaries and wages.....	14,495,250	741,160	1,284,343	832,545	264,718	465,373
Fuel.....	2,676,556	471,688	170,768	255,811	249,819	370,506
Miscellaneous.....	12,635,151	317,494	1,635,097	497,175	215,084	381,958
Cost of power.....	20,155,687	218,363	1,643,672	161,027	40,364	282,374
Total for Commercial Stations	22,988,298	458,179	3,643,301	671,230	674,926	1,187,831
Salaries and wages.....	6,551,084	226,908	1,041,460	274,419	233,046	351,830
Fuel.....	1,270,963	118,640	87,073	164,652	225,472	296,172
Miscellaneous.....	8,283,647	96,598	961,339	179,630	200,986	289,441
Cost of power.....	6,882,604	16,083	1,553,429	52,529	15,422	250,408
Non-generating stations.....	5,596,318	20,942	1,819,121	79,308	9,853	543,106
Generating stations.....	17,391,980	437,237	1,824,180	***	665,073	644,745
Hydraulic stations.....	15,650,093	179,938	1,785,991	***	138,309	64,117
Fuel stations.....	1,741,887	257,299	38,189	***	526,764	580,628
Total for Municipal Stations	26,974,346	1,290,526	490,579	1,075,328	95,659	312,360
Salaries and wages.....	7,044,166	514,252	242,883	559,126	31,672	113,543
Fuel.....	1,405,593	353,048	83,695	91,159	24,347	74,334
Miscellaneous.....	4,351,504	220,896	73,758	317,545	14,098	92,517
Cost of power.....	13,273,083	202,330	90,243	108,498	24,942	31,966
Non-generating stations.....	15,034,651	28,645	135,075	281,033	25,845	54,032
Generating stations.....	11,939,695	1,261,881	355,504	794,295	69,214	258,328
Hydraulic stations.....	8,180,465	—	180,875	615,482	26,351	101,217
Fuel Stations.....	3,759,230	1,261,881	174,629	178,813	42,863	157,111
Total Expenses for Non-Generating Stations	20,630,969	49,587	1,954,196	***	35,698	597,138
Total Expenses for Generating Stations	29,331,675	1,699,118	2,179,684	***	734,287	903,073
Hydraulic stations.....	23,830,558	179,938	1,966,866	***	164,660	165,334
Fuel stations.....	5,501,117	1,519,180	212,818	***	569,627	737,739

Table 8—Employees, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Number of Persons Employed	10,684	485	785	549	243	431
Per cent of total for Canada.....	100	4.54	7.35	5.14	2.27	4.04
Officers, superintendents, etc.....	1,036	34	68	40	48	52
Clerks, other salaried employees.....	3,418	130	283	225	36	97
Employees on wages.....	6,230	321	434	284	159	282
Total Employees in Commercial Stations	4,994	150	630	184	210	317
Non-generating.....	849	11	330	6	12	121
Generating.....	4,045	139	300	178	198	196
Hydraulic.....	3,560	59	283	170	59	51
Fuel.....	485	80	17	8	139	145
Total Employees in Municipal Stations	5,690	335	155	365	33	114
Non-generating.....	3,498	4	27	70	6	12
Generating.....	2,192	331	128	295	27	102
Hydraulic.....	1,253	83	83	252	10	55
Fuel.....	939	331	45	43	17	47
Total Employees in Non-Generating Stations	4,447	15	357	76	18	133
Total Employees in Generating Stations	6,237	470	428	473	225	288
Hydraulic.....	4,813	59	366	422	69	106
Fuel.....	1,424	411	62	51	156	192

Tableau 7—Dépenses, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
26,282,876 52-61	98,163 0-20	11,800,918 23-62	1,804,638 3-61	76,710 0-15	Total des dépenses Pourcentage dans chaque province
7,229,024 260,427 4,720,734 14,072,691	29,873 39,258 28,663 369	3,011,613 89,464 5,021,493 3,678,348	607,769 764,088 388,040 44,741	28,832 4,727 29,413 13,738	Traitements, appointements et salaires Combustible Dépenses diverses Achat d'énergie électrique
5,055,362 1,571,013 219,614 1,711,484 1,553,251	73,236 24,663 26,454 21,750 369	10,978,318 2,745,007 37,271 4,768,615 3,427,425	169,185 53,906 90,888 24,391 —	76,710 28,832 4,727 29,413 13,738	Total pour les usines commerciales Traitements, appointements et salaires Combustible Dépenses diverses Achat d'énergie électrique
1,300,609 3,754,753 3,713,889 41,364	*** *** *** ***	1,797,885 9,180,433 9,155,237 25,196	— 169,185 — 169,185	*** *** *** ***	Usines non productrices Usines productrices Usines hydrauliques Usines à combustible
21,227,514 5,658,011 40,813 3,009,250 12,519,440	24,927 5,210 12,804 6,913 —	822,600 266,606 52,193 252,878 250,923	1,635,453 553,863 673,200 363,649 44,741	— — — — —	Total pour les usines municipales Traitements, appointements et salaires Combustible Dépenses diverses Achat d'énergie électrique
14,278,612 6,948,902 6,873,584 75,318	— 24,927 — 24,927	214,883 607,717 382,956 224,761	16,526 1,618,927 — 1,618,927	— — — —	Usines non productrices Usines productrices Usines hydrauliques Usines à combustible
15,579,221	***	2,012,768	16,526	***	Total des dépenses pour les usines non productrices
10,703,655	***	9,788,150	1,788,112	***	Total des dépenses pour les usines productrices
10,586,973 116,682	*** ***	9,538,193 249,957	— 1,788,112	*** ***	Usines hydrauliques Usines à combustible

Tableau 8—Personnel, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
5,287 49-49	30 0-28	2,447 22-90	417 3-90	10 0-09	Total du personnel occupé Pourcentage dans chaque province
428 1,704 3,155	8 -4 18	227 927 1,293	127 12 278	4 — 6	Administrateurs, directeurs, etc. Commis et tous employés des bureaux Ouvriers et journaliers
1,200 113 1,087 1,077 10	25 — 25 7 18	2,211 352 1,859 1,851 8	57 — 57 — 57	10 4 6 3 3	Personnel des usines commerciales Non productrices Productrices Hydrauliques A combustible
4,087 3,324 763 741 22	5 — 5 — 5	236 50 186 112 74	360 5 355 — 355	— — — — —	Personnel des usines municipales Non productrices Productrices Hydrauliques A combustible
3,437	—	402	5	4	Total du personnel des usines non productrices
1,850 1,818 32	30 7 23	2,045 1,963 82	412 — 412	6 3 3	Total du personnel des usines productrices Hydrauliques A combustible

CENSUS OF INDUSTRY

Table 9—Number of Customers, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Number of Customers	1,053,545	54,860	91,904	73,565	22,735	37,101
Per cent of total for Canada	100.00	5.21	9.01	6.98	2.16	3.52
Commercial	164,199	6,927	17,244	13,713	5,450	7,732
Private	889,346	47,933	77,660	59,852	17,285	29,457
Total Number of Customers Commercial Stations	476,285	9,983	75,501	25,295	19,363	28,146
Non-generating	123,806	544	53,094	4,550	375	12,812
Generating	352,479	9,439	22,407	20,745	18,988	15,336
Hydraulic	309,206	3,539	21,634	20,521	3,532	1,928
Fuel	43,273	5,900	773	224	15,456	13,408
Total Number of Customers Municipal Stations	577,260	44,877	19,403	48,270	3,372	9,042
Non-generating	395,816	821	7,483	3,768	912	1,646
Generating	181,444	44,056	11,920	44,502	2,460	7,396
Hydraulic	77,881	—	6,658	40,926	796	2,705
Fuel	103,563	44,056	5,262	3,576	1,664	4,691
Total Number of Customers Non-Generating Stations	519,622	1,365	60,577	8,318	1,287	14,458
Total Number of Customers Generating Stations	533,923	53,495	34,327	65,247	21,448	22,732
Hydraulic	387,087	3,539	28,292	61,447	4,328	4,633
Fuel	146,836	49,956	6,035	3,800	17,120	18,099
Average Number of Private Customers per 100 of population	9.92	7.84	14.41	9.55	4.41	5.58

Table 10—Pole Line Mileage, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Pole Line Mileage	22,669	981	3,042	1,462	614	872
Per cent of total for Canada	100.00	4.33	13.42	6.45	2.71	3.84
For transmission	8,296	199	999	428	163	185
For distribution	14,373	782	2,043	1,034	451	687
Total Pole Line Mileage—Commercial Stations	11,123	306	2,552	640	503	613
Non-generating	3,121	23	1,300	139	27	154
Generating	8,002	283	1,252	501	476	459
Hydraulic	6,970	149	1,225	488	129	101
Fuel	1,032	134	27	13	347	358
Total Pole Line Mileage—Municipal Stations	11,546	675	490	822	111	259
Non-generating	5,621	19	171	203	31	43
Generating	5,925	656	319	619	80	216
Hydraulic	4,320	—	189	551	42	115
Fuel	1,605	656	130	68	38	101
Total Pole Line Mileage—Non-Generating Stations	8,742	42	1,471	342	55	197
Total Pole Line Mileage—Generating Stations	13,927	939	1,571	1,120	556	675
Hydraulic	11,290	149	1,414	1,039	171	216
Fuel	2,637	790	157	81	385	459

Tableau 9—Abonnés, 1922

Ontario	Prince Edward Is. — Île du Prince-Edouard	Quebec	Saskatchewan	Yukon	
441,569	3,337	286,598	38,305	482	Nombre d'abonnés
41.91	0.32	27.20	3.64	0.05	Pourcentage du total pour le Canada
82,131	581	21,874	8,411	135	Commerçants
359,438	2,756	264,724	29,894	347	Particuliers
59,185	2,877	251,529	3,922	482	Nombre total des abonnés des usines commerciales
13,788	32	38,263	—	348	Non productrices
45,397	2,845	213,266	3,922	134	Productrices
44,942	629	212,475	—	6	Hydrauliques
455	2,216	791	3,922	128	A combustible
382,384	460	35,069	34,383	—	Nombre total des abonnés des usines municipales
369,630	—	11,094	462	—	Non productrices
12,754	460	23,975	33,921	—	Productrices
10,970	—	15,826	—	—	Hydrauliques
1,784	460	8,149	33,921	—	A combustible
383,418	32	49,357	462	348	Nombre total des abonnés des usines non productrices
58,151	3,305	237,241	37,843	134	Nombre total des abonnés des usines productrices
55,912	629	228,301	—	6	Hydrauliques
2,239	2,676	8,940	37,843	128	A combustible
12.06	3.12	11.20	3.80	9.30	Nombre moy. d'abonnés (éclairage des maisons) par 100 habitants

Tableau 10—Longueur (en milles) des lignes sur poteaux, 1922

Ontario	Prince Edward Is. — Île du Prince-Edouard	Quebec	Saskatchewan	Yukon	
10,044	68	4,892	624	70	Longueur totale, en milles lignes sur poteaux
44.31	0.30	21.58	2.75	0.31	Pourcentage dans chaque province
4,037	21	2,173	32	59	Pour la transmission
6,007	47	2,719	502	11	Pour la distribution
1,885	59	4,392	103	70	Pour le service des usines commerciales
272	9	1,191	—	6	Non productrices
1,613	50	3,201	103	64	Productrices
1,601	34	3,182	—	61	Hydrauliques
12	16	19	103	3	A combustible
8,159	9	500	521	—	Pour le service des usines municipales
4,932	—	209	13	—	Non productrices
3,227	9	291	508	—	Productrices
3,178	—	245	—	—	Hydrauliques
49	9	46	508	—	A combustible
5,204	9	1,400	13	6	Pour le service des usines non productrices
4,840	59	3,492	611	64	Pour le service des usines productrices
4,779	34	3,427	—	61	Hydrauliques
61	25	65	611	3	A combustible

CENSUS OF INDUSTRY

Table 11—Equipment, 1922
TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

		Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power.....	H.P.	2,408,655	90,533	260,300	104,602	24,555	36,812
Per cent of total for Canada.....	No.	100.00	3.76	10.81	4.34	1.02	1.53
Water-wheels and turbines.....	No.	629	14	55	19	23	23
Total capacity.....	H.P.	2,112,289	32,560	228,441	89,625	11,770	15,289
Steam engines.....	No.	224	55	20	19	21	35
Total capacity.....	H.P.	60,960	14,321	3,444	5,801	6,300	9,573
Steam turbines.....	No.	72	14	10	2	5	10
Total capacity.....	H.P.	218,655	41,650	26,400	8,000	5,075	11,545
Gas and oil engines.....	No.	232	39	13	7	9	6
Total capacity.....	H.P.	16,751	2,002	2,015	1,176	1,410	405
Total Dynamo Capacity.....	K.V.A.	1,858,413	70,431	173,415	86,088	17,443	29,912
Per cent of total for Canada.....	No.	100.00	3.76	9.33	4.63	0.94	1.61
Dynamos, A.C.....	No.	929	81	95	45	45	64
Capacity.....	K.V.A.	1,846,365	67,429	173,075	85,879	16,584	28,107
Dynamos, D.C.....	No.	186	37	5	10	7	12
Capacity.....	K.W.	12,048	3,002	340	209	859	1,805
Commercial Stations							
Total Primary Power.....	H.P.	1,681,136	39,787	244,105	33,841	22,280	20,355
Water-wheels and turbines.....	No.	470	14	45	7	16	9
Total capacity.....	H.P.	1,531,847	32,560	218,446	22,400	10,960	1,515
Steam Engines.....	No.	113	21	9	7	18	25
Total capacity.....	H.P.	31,184	4,630	1,169	3,471	5,885	7,850
Steam turbine.....	No.	38	2	8	2	5	7
Total capacity.....	H.P.	113,794	2,000	24,400	8,000	5,075	10,800
Gas and oil engines.....	No.	121	27	3	4	4	3
Total capacity.....	H.P.	4,311	597	90	70	360	190
Total Dynamo Capacity.....	K.V.A.	1,307,632	28,055	162,415	26,288	15,719	16,585
Dynamos, A.C.....	No.	565	37	61	14	33	33
Capacity.....	K.V.A.	1,300,879	27,898	162,075	26,213	14,860	14,700
Dynamos, D.C.....	No.	141	25	5	5	7	12
Capacity.....	K.W.	6,753	157	340	75	859	1,805
Municipal Stations							
Total Primary Power.....	H.P.	727,519	50,746	16,195	70,661	2,275	16,457
Water-wheels and turbines.....	No.	159	—	10	12	3	14
Total capacity.....	H.P.	580,442	—	9,995	67,225	810	13,774
Steam engines.....	No.	111	34	11	12	3	10
Total capacity.....	H.P.	29,776	9,691	2,275	2,330	415	1,723
Steam turbines.....	No.	34	12	2	—	—	3
Total capacity.....	H.P.	104,861	39,650	2,000	—	—	745
Gas and oil engines.....	No.	111	12	10	12	5	3
Total capacity.....	H.P.	12,440	1,405	1,925	1,106	1,050	215
Total Dynamo Capacity.....	K.V.A.	550,781	42,376	11,000	59,800	1,724	13,407
Dynamos, A.C.....	No.	364	44	34	31	12	31
Capacity.....	K.V.A.	545,486	39,531	11,003	59,666	1,724	13,407
Dynamos, D.C.....	No.	45	12	—	5	—	—
Capacity.....	K.W.	5,295	2,845	—	134	—	—

Table 12—Auxiliary Plant Equipment, 1922

Total Primary Power.....	H.P.	150,257	2,350	26,830	12,316	1,075	9,110
Per cent of total for Canada.....	No.	100.00	1.56	17.86	8.22	0.72	6.06
Steam reciprocating engines.....	No.	49	2	5	5	4	6
Total capacity.....	H.P.	20,476	1,250	1,130	4,106	1,075	2,285
Steam turbines.....	No.	31	1	9	2	—	2
Total capacity.....	H.P.	129,110	1,000	25,500	8,000	—	6,700
Gas and oil engines.....	No.	7	1	1	2	—	2
Total capacity.....	H.P.	671	100	200	240	—	125
Total Secondary Power.....	K.V.A.	122,214	2,100	20,590	10,525	597	8,154
Per cent of total for Canada.....	No.	100.00	1.72	16.85	8.61	0.49	6.67
Dynamos, A.C.....	No.	72	4	16	9	3	10
Total capacity.....	K.V.A.	120,534	2,100	20,590	10,525	597	8,154
Dynamos, D.C.....	No.	5	—	—	—	—	—
Total capacity.....	K.W.	1,680	—	—	—	—	—
Commercial Stations							
Total Primary Power.....	H.P.	115,907	2,350	23,950	11,206	700	8,829
Steam reciprocating engines.....	No.	28	2	1	3	2	4
Total capacity.....	H.P.	13,361	1,250	450	3,206	700	2,040
Steam turbines.....	No.	24	1	7	2	—	2
Total capacity.....	H.P.	102,360	1,000	23,500	8,000	—	6,700
Gas and oil engines.....	No.	3	1	—	—	—	1
Total capacity.....	H.P.	186	100	—	—	—	80
Total Secondary Power.....	K.V.A.	96,685	2,100	18,265	9,750	375	7,947
Dynamos, A.C.....	No.	45	4	8	5	1	7
Total capacity.....	K.V.A.	96,255	2,100	18,265	9,750	375	7,947
Dynamos, D.C.....	No.	3	—	—	—	—	—
Total capacity.....	K.W.	430	—	—	—	—	—
Municipal Stations							
Total Primary Power.....	H.P.	34,350	—	2,850	1,140	375	290
Steam reciprocating engines.....	No.	21	—	4	2	2	2
Total capacity.....	H.P.	7,115	—	680	900	375	245
Steam turbines.....	No.	7	—	2	—	—	—
Total capacity.....	H.P.	26,750	—	2,000	—	—	—
Gas and oil engines.....	No.	4	—	1	2	—	1
Total capacity.....	H.P.	485	—	200	240	—	45
Total Secondary Power.....	K.V.A.	25,529	—	2,325	775	222	207
Dynamos, A.C.....	No.	27	—	8	4	2	3
Total capacity.....	K.V.A.	24,279	—	2,325	775	222	207
Dynamos, D.C.....	No.	2	—	—	—	—	—
Total capacity.....	K.W.	1,250	—	—	—	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 11—Machinerie, 1922
TOTAL DE LA MACHINERIE Y COMPRIS CELLE DES USINES AUXILIAIRES

Ontario	Prince Edward Is. Ile du Prince-Edouard	Quebec	Saskatchewan	Yukon	
1,037,447	1,832	790,945	51,409	10,220	Total force motrice primaire..... H.P.
43,07	0-08	32-84	2-13	0-42	Pourcentage dans chaque province.....
274	8	215	-	2	Turbines et roues hydrauliques..... nomb.
969,067	279	755,258	-	10,000	Capacité totale..... H.P.
29	3	20	21	1	Machines à vapeur..... nomb.
7,365	560	7,595	5,941	60	Capacité totale..... H.P.
9	-	8	13	1	Turbines à vapeur..... nomb.
60,250	-	27,775	37,800	160	Capacité totale..... H.P.
15	7	9	118	-	Moteurs à gaz et à pétrole..... nomb.
765	993	317	7,668	-	Capacité totale..... H.P.
805,281	1,480	623,468	44,715	6,180	Machinerie développant la force motrice secondaire
43-33	0-08	33-55	2-41	0-33	Pourcentage dans chaque province.....
284	13	221	78	3	Dynamos, C.A..... nomb.
802,858	1,469	621,878	42,936	6,150	Capacité totale..... K.V.A.
26	2	14	71	2	Dynamos, C.D..... nomb.
2,423	11	1,590	1,779	30	Capacité totale..... K.W.
					Usines commerciales
535,049	1,532	771,320	2,547	10,220	Total force motrice primaire..... H.P.
178	8	191	-	2	Turbines et roues hydrauliques..... nomb.
497,054	279	738,633	-	10,000	Capacité totale..... H.P.
12	2	12	6	1	Machines à vapeur..... nomb.
2,220	410	4,755	734	60	Capacité totale..... H.P.
4	-	8	1	1	Turbines à vapeur..... nomb.
35,500	-	27,775	84	160	Capacité totale..... H.P.
7	6	6	61	-	Moteurs à gaz et à pétrole..... nomb.
275	843	157	1,729	-	Capacité totale..... H.P.
440,458	1,180	609,161	1,671	6,180	Machinerie développant la force motrice secondaire
170	11	188	15	3	Dynamos, C.A..... nomb.
439,307	1,169	607,583	924	6,150	Capacité totale..... K.V.A.
20	2	12	51	2	Dynamos, C.D..... nomb.
1,151	11	1,578	747	30	Capacité totale..... K.W.
					Usines municipales
502,398	300	19,625	48,862	-	Total force motrice primaire..... H.P.
96	-	24	-	-	Turbines et roues hydrauliques..... nomb.
472,013	-	16,625	-	-	Capacité totale..... H.P.
17	1	8	15	-	Machines à vapeur..... nomb.
5,145	150	2,840	5,207	-	Capacité totale..... H.P.
5	-	-	12	-	Turbines à vapeur..... nomb.
24,750	-	-	37,716	-	Capacité totale..... H.P.
8	1	3	57	-	Moteurs à gaz et à pétrole..... nomb.
490	150	160	5,939	-	Capacité totale..... H.P.
364,823	300	14,307	43,044	-	Machinerie développant la force motrice secondaire
114	2	33	63	-	Dynamos, C.A..... nomb.
363,551	300	14,295	42,012	-	Capacité totale..... K.V.A.
6	-	2	20	-	Dynamos, C.D..... nomb.
1,272	-	12	1,032	-	Capacité totale..... K.W.

Tableau 12—Machines des usines auxiliaires, 1922

65,715	66	32,605	-	160	Total force motrice primaire..... H.P.
43-73	0-04	21-70	-	0-11	Pourcentage dans chaque province.....
15	1	11	-	-	Machines à vapeur..... nomb.
5,465	60	5,105	-	-	Capacité totale..... H.P.
9	-	7	-	1	Turbines à vapeur..... nomb.
60,250	-	27,500	-	160	Capacité totale..... H.P.
-	1	-	-	-	Moteurs à gaz et à pétrole..... nomb.
-	6	-	-	-	Capacité totale..... H.P.
53,528	-	26,570	-	150	Machinerie développant la force motrice secondaire
43-80	-	21-74	-	0-12	Pourcentage dans chaque province.....
17	-	12	-	1	Dynamos, C.A..... nomb.
52,128	-	26,290	-	150	Capacité totale..... K.V.A.
3	-	2	-	-	Dynamos, C.D..... nomb.
1,400	-	280	-	-	Capacité totale..... K.W.
					Usines commerciales
36,690	66	31,965	-	160	Total force motrice primaire..... H.P.
6	1	9	-	-	Machines à vapeur..... nomb.
1,190	60	4,465	-	-	Capacité totale..... H.P.
4	-	7	-	1	Turbines à vapeur..... nomb.
35,500	-	27,500	-	160	Capacité totale..... H.P.
-	1	-	-	-	Moteurs à gaz et à pétrole..... nomb.
-	6	-	-	-	Capacité totale..... H.P.
31,528	-	26,570	-	150	Machinerie développant la force motrice
7	-	12	-	1	Dynamos, C.A..... nomb.
31,378	-	26,290	-	150	Capacité totale..... K.V.A.
1	-	2	-	-	Dynamos, C.D..... nomb.
150	-	280	-	-	Capacité totale..... K.W.
					Usines municipales
29,025	-	640	-	-	Total force motrice primaire..... H.P.
9	-	2	-	-	Machines à vapeur..... nomb.
4,275	-	640	-	-	Capacité totale..... H.P.
5	-	-	-	-	Turbines à vapeur..... nomb.
24,750	-	-	-	-	Capacité totale..... H.P.
-	-	-	-	-	Moteurs à gaz et à pétrole..... nomb.
-	-	-	-	-	Capacité totale..... H.P.
22,600	-	-	-	-	Machinerie développant la force motrice..... K.V.A.
10	-	-	-	-	Dynamos, C.A..... nomb.
20,750	-	-	-	-	Capacité totale..... K.V.A.
2	-	-	-	-	Dynamos, C.D..... nomb.
1,250	-	-	-	-	Capacité totale..... K.W.

Table 13—Main Plant Equipment, 1922

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power..... H.P.	2,258,398	88,183	233,470	92,256	23,480	27,702
Per cent of total for Canada.....	100.00	3.90	10.34	4.08	1.04	1.23
Water-wheel and turbines..... No.	629	14	55	19	19	23
Total capacity..... H.P.	2,112,289	32,560	228,441	89,625	11,770	15,289
Steam reciprocating engines..... No.	175	53	15	14	17	29
Total capacity..... H.P.	40,484	13,071	2,314	1,695	5,225	7,288
Steam turbines..... No.	41	13	1	—	5	8
Total capacity..... H.P.	89,545	40,650	900	—	5,075	4,845
Gas and oil engines..... No.	225	38	12	14	9	4
Total capacity..... H.P.	16,080	1,902	1,815	936	1,410	280
Boilers..... No.	326	112	18	19	30	51
Total capacity..... H.P.	67,924	27,740	1,783	2,030	5,921	9,030
Per cent of total for Canada.....	100	40.84	2.62	2.99	8.72	13.29
Total Dynamo Capacity..... K.V.A.	1,736,199	68,331	152,825	75,563	16,846	21,758
Per cent of total for Canada.....	100	3.94	8.80	4.35	0.97	1.25
Dynamos, A.C..... No.	857	77	79	36	42	54
Total capacity..... K.V.A.	1,725,831	65,329	152,485	75,354	15,987	19,953
Dynamos, D.C..... No.	181	37	5	10	7	12
Total capacity..... K.W.	10,368	3,002	340	209	859	1,805
Commercial Stations						
Total Primary Power..... H.P.	1,565,229	37,437	220,155	22,735	21,580	11,535
Per cent of total for Canada.....	100.00	2.39	14.07	1.45	1.38	0.74
Water wheels and turbines..... No.	470	14	45	7	16	9
Total capacity..... H.P.	1,531,847	32,560	218,446	22,400	10,960	1,515
Steam reciprocating engines..... No.	85	19	8	4	16	21
Total capacity..... H.P.	17,823	3,380	719	265	5,185	5,810
Steam turbines..... No.	14	1	1	—	5	5
Total capacity..... H.P.	11,434	1,000	900	—	5,075	4,100
Gas and oil engines..... No.	118	26	3	4	4	2
Total capacity..... H.P.	4,125	497	90	70	360	110
Boilers..... No.	132	27	0	6	27	38
Total capacity..... H.P.	20,945	3,740	859	560	5,721	6,730
Per cent of total for Canada.....	100	17.86	4.10	2.67	27.31	32.13
Total Dynamo Capacity..... K.V.A.	1,210,947	25,955	144,150	16,538	15,344	8,558
Per cent of total for Canada.....	100	2.14	11.90	1.36	1.27	0.71
Dynamos, A.C..... No.	520	33	53	9	32	26
Total capacity..... K.V.A.	1,204,624	25,798	143,810	16,463	14,485	6,753
Dynamos, D.C..... No.	138	25	5	5	7	12
Total capacity..... K.W.	6,323	157	340	75	859	1,805
Municipal Stations						
Total Primary Power..... H.P.	693,169	50,746	13,315	69,521	1,900	16,167
Per cent of total for Canada.....	100	7.32	1.92	10.03	0.28	2.33
Water-wheels and turbines..... No.	159	—	10	12	3	14
Total capacity..... H.P.	580,442	—	9,995	67,225	810	13,774
Steam reciprocating engines..... No.	90	34	7	10	1	8
Total capacity..... H.P.	22,661	9,691	1,595	1,430	40	1,478
Steam turbines..... No.	27	12	—	—	—	3
Total capacity..... H.P.	78,111	39,650	—	—	—	745
Gas and oil engines..... No.	107	12	9	10	5	2
Total capacity..... H.P.	11,955	1,405	1,725	866	1,050	170
Boilers..... No.	194	85	9	13	3	13
Total capacity..... H.P.	46,979	24,000	924	1,470	209	2,300
Per cent of total for Canada.....	100.00	51.09	1.97	3.13	0.42	4.89
Total Dynamo Capacity..... K.V.A.	525,252	42,376	8,675	59,025	1,502	13,200
Per cent of total for Canada.....	100.00	8.07	1.65	11.24	0.29	2.51
Dynamos, A.C..... No.	337	44	26	27	10	28
Total capacity..... K.V.A.	521,207	39,531	8,675	58,891	1,502	13,200
Dynamos, D.C..... No.	43	12	—	5	—	—
Total capacity..... K.W.	4,045	2,845	—	134	—	—
Hydraulic Stations						
Total Dynamo Capacity..... K.V.A.	1,617,281	22,350	148,752	73,662	8,673	12,710
Per cent of total for Canada.....	100.00	1.38	9.20	4.55	0.54	0.79
Dynamos, A.C..... No.	583	10	55	19	16	24
Total capacity..... K.V.A.	1,615,419	22,350	148,682	73,662	8,613	12,710
Dynamos, D.C..... No.	20	—	2	—	2	—
Total capacity..... K.W.	1,862	—	70	—	60	—
Fuel Stations						
Total Dynamo Capacity..... K.V.A.	118,918	45,981	4,073	1,901	8,173	9,048
Per cent of total for Canada.....	100.00	38.67	3.42	1.60	6.87	7.61
Dynamos, A.C..... No.	274	67	24	17	26	30
Total capacity..... K.V.A.	110,412	42,979	3,803	1,692	7,374	7,243
Dynamos, D.C..... No.	161	37	3	10	5	12
Total capacity..... K.W.	8,506	3,002	270	209	799	1,805

Tableau 13—Machines des usines principales, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskat- chewan	Yukon	
971,732	1,766	758,340	51,409	10,060	Machinerie fournissant la force motrice primaire H.P.
43-03	0-08	33-58	2-28	0-44	Pourcentage dans chaque province
274	8	215	—	2	Turbines et roues hydrauliques..... nomb.
969,067	279	755,258	—	10,000	Capacité totale..... H.P.
14	2	9	21	1	Machines à vapeur..... nomb.
1,900	500	2,490	5,941	60	Capacité totale..... H.P.
—	—	1	13	—	Turbines à vapeur..... nomb.
15	6	275	37,800	—	Capacité totale..... H.P.
765	987	317	7,668	—	Moteurs à gaz et à pétrole..... nomb.
—	—	—	—	—	Capacité totale..... H.P.
17	2	15	61	1	Chaudières..... nomb.
2,030	500	2,920	15,910	60	Capacité totale..... H.P.
2-99	0-74	4-30	23-42	0-09	Pourcentage dans chaque province
751,753	1,480	596,898	44,715	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
43-30	0-09	34-38	2-67	0-35	Pourcentage dans chaque province
267	13	209	78	2	Dynamos, C.A..... nomb.
750,730	1,469	595,588	42,936	6,000	Capacité totale..... K.V.A.
23	2	12	71	2	Dynamos, C.D..... nomb.
1,023	11	1,310	1,779	30	Capacité totale..... K.W.
Usines commerciales					
498,359	1,466	739,355	2,547	10,060	Machinerie fournissant la force motrice primaire H.P.
31-84	0-09	47-24	0-16	0-64	Pourcentage dans chaque province
178	8	191	—	2	Turbines et roues hydrauliques..... nomb.
497,054	279	738,633	—	10,000	Capacité totale..... H.P.
6	1	3	6	1	Machines à vapeur..... nomb.
1,030	350	290	734	60	Capacité totale..... H.P.
—	—	1	1	—	Turbines à vapeur..... nomb.
—	—	275	84	—	Capacité totale..... H.P.
7	5	6	61	—	Moteurs à gaz et à pétrole..... nomb.
275	837	157	1,729	—	Capacité totale..... H.P.
8	1	7	8	1	Chaudières..... nomb.
1,125	250	1,050	850	60	Capacité totale..... H.P.
5-37	1-20	5-01	4-06	0-29	Pourcentage dans chaque province
408,930	1,180	582,591	1,671	6,030	Capacité totale de l'ensemble des dynamos K.V.A.
33-77	0-10	48-11	0-14	0-50	Pourcentage dans chaque province
163	11	176	15	2	Dynamos, C.A..... nomb.
407,929	1,169	581,293	924	6,000	Capacité totale..... K.V.A.
19	2	10	51	2	Dynamos, C.D..... nomb.
1,001	11	1,298	747	30	Capacité totale..... K.W.
Usines municipales					
473,373	300	18,985	48,862	—	Machinerie fournissant la force motrice primaire H.P.
63-29	0-04	2-74	7-05	—	Pourcentage dans chaque province
96	—	24	—	—	Turbines et roues hydrauliques..... nomb.
472,013	—	16,025	—	—	Capacité totale..... H.P.
8	1	6	15	—	Machines à vapeur..... nomb.
870	150	2,200	5,207	—	Capacité totale..... H.P.
—	—	—	12	—	Turbines à vapeur..... nomb.
8	1	3	37,716	—	Capacité totale..... H.P.
490	150	160	5,939	—	Moteurs à gaz et à pétrole..... nomb.
—	—	—	—	—	Capacité totale..... H.P.
9	1	8	53	—	Chaudières..... nomb.
965	250	1,870	15,060	—	Capacité totale..... H.P.
1-93	0-53	3-98	32-06	—	Pourcentage dans chaque province
342,823	300	14,307	43,044	—	Capacité totale de l'ensemble des dynamos K.V.A.
65-27	0-06	2-72	8-19	—	Pourcentage dans chaque province
104	2	33	63	—	Dynamos, C.A..... nomb.
342,801	300	14,295	42,012	—	Capacité totale..... K.V.A.
4	—	2	20	—	Dynamos, C.D..... nomb.
22	—	12	1,032	—	Capacité totale..... K.W.
Les Usines Hydrauliques					
750,077	332	594,725	—	6,000	Capacité de l'ensemble des dynamos..... K.V.A.
46-38	0-02	36-77	—	0-37	Pourcentage dans chaque province
254	6	197	—	2	Dynamos, C.A..... nomb.
749,638	324	593,440	—	6,000	Capacité totale..... K.V.A.
8	1	7	—	—	Dynamos, C.D..... nomb.
439	8	1,285	—	—	Capacité totale..... K.W.
Les Usines à combustible					
1,676	1,148	2,173	44,715	30	Capacité totale de l'ensemble des dynamos... K.V.A.
1-41	0-96	1-83	37-60	0-03	Pourcentage dans chaque province
13	7	12	78	—	Dynamos, C.A..... nomb.
1,092	1,145	2,148	42,936	—	Capacité totale..... K.V.A.
15	1	5	71	2	Dynamos, C.D..... nomb.
584	3	25	1,779	30	Capacité totale..... K.W.

Table 14—Main Plant Equipment Classified, 1922

No.		Canada	Alberta	British Columbia — Colombie Britannique	Manitoba
1	Primary Power—Force motrice primaire.....	2,258,398	88,183	233,470	92,255
2	Water-wheels and turbines—Roues hydrauliques et turbines—				
3	Total.....No..	629	14	55	19
4	Total H.P.....	2,112,289	32,560	228,441	89,625
5	Under—Au-dessous de 500 H.P.....No..	225	8	12	1
6	Total H.P.....	39,223	960	2,505	125
7	500-2,000 H.P.....No..	188	—	19	2
8	Total H.P.....	201,431	—	21,336	1,000
9	2,000-5,000 H.P.....No..	77	2	7	2
10	Total H.P.....	219,035	8,000	21,600	6,400
11	5,000-10,000 H.P.....No..	56	4	6	14
12	Total H.P.....	358,700	23,600	46,000	82,100
13	10,000-15,000 H.P.....No..	52	—	11	—
14	Total H.P.....	604,400	—	137,000	—
15	15,000-55,000 H.P.....No..	31	—	—	—
16	Total H.P.....	689,500	—	—	—
17	Steam Engines and Turbines—Machines et turbines à vapeur—				
18	Total.....No..	216	66	16	14
19	Total H.P.....	130,029	53,721	3,214	1,695
20	Steam Reciprocating Engines—Machines à vapeur—				
21	Total.....No..	175	53	15	14
22	Total H.P.....	40,484	13,071	2,314	1,695
23	Under—Au-dessous de 500 H.P.....No..	156	45	14	14
24	Total H.P.....	25,704	6,501	1,814	1,695
25	500 up.....No..	19	8	1	—
26	Total H.P.....	14,780	6,570	500	—
27	Steam Turbines—Turbines à vapeur—				
28	Total.....No..	41	13	1	—
29	Total H.P.....	89,545	40,650	900	—
30	Under—Au-dessous de 500 H.P.....No..	7	—	—	—
31	Total H.P.....	1,384	—	—	—
32	500-2,000 H.P.....No..	14	3	1	—
33	Total H.P.....	12,401	3,000	900	—
34	2,000-5,000 H.P.....No..	15	7	—	—
35	Total H.P.....	43,160	18,450	—	—
36	5,000-10,000 H.P.....No..	5	3	—	—
37	Total H.P.....	32,600	19,200	—	—
38	Gas and Oil Engines—Moteurs à gaz et à pétrole—				
39	Total.....No..	225	38	12	14
40	Total H.P.....	16,080	1,902	1,815	936
41	Secondary Power—Force motrice secondaire				
42	Dynamos, A.C. and D.C.—C.A. et C.D.....Total.....No..	1,038	114	84	46
43	Total K.V.A.....	1,736,199	68,331	152,825	75,563
44	Dynamos A.C.—C.A.....Total.....No..	857	77	79	36
45	Total K.V.A.....	1,725,831	65,329	152,485	75,354
46	Under—Au-dessous de 200 K.V.A.....No..	311	47	27	15
47	Total K.V.A.....	29,169	3,918	2,816	1,267
48	200-500 K.W.A.....No..	131	9	14	5
49	Total K.V.A.....	39,460	2,706	4,806	1,487
50	500-1,000 K.V.A.....No..	143	4	11	—
51	Total K.V.A.....	103,898	2,830	9,338	—
52	1,000-5,000 K.V.A.....No..	162	14	12	10
53	Total K.V.A.....	373,742	38,375	24,275	34,350
54	5,000-10,000 K.V.A.....No..	65	3	15	6
55	Total K.V.A.....	479,862	17,500	111,250	38,250
56	10,000-15,000 K.V.A.....No..	33	—	—	—
57	Total K.V.A.....	383,700	—	—	—
58	15,000 up.....No..	12	—	—	—
59	Total K.V.A.....	316,000	—	—	—
60	Dynamos, D.C.—C.D.....Total.....No..	181	37	5	10
61	Total K.W.....	10,368	3,002	340	209
62	Under—Au-dessous de 200 K.W.....No..	163	32	4	10
63	Total K.W.....	3,268	352	140	209
64	200-500 K.W.....No..	13	2	1	—
65	Total K.W.....	4,000	800	200	—
66	500-1,000 K.W.....No..	5	3	—	—
67	Total K.W.....	3,100	1,850	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 14—Machines des usines principales classifiées, 1922

New Brunswick — Nouveau-Brunswick	Nova Scotia — Nouvelle-Ecosse	Ontario	Prince Ed. Island — Ile du Pr.-Edouard	Quebec	Saskatchewan	Yukon	Commercial — Commerciales	Municipal — Municipales	N°
23,480	27,702	971,732	1,766	758,340	51,409	10,060	1,565,229	693,169	1
19	23	274	8	215	—	2	470	159	2
11,770	15,289	969,067	279	755,258	—	10,000	1,531,847	580,442	3
13	17	80	8	86	—	—	178	47	4
2,720	3,019	14,537	279	15,078	—	—	29,536	9,687	5
3	4	104	—	56	—	—	120	68	6
2,000	5,370	109,120	—	62,605	—	—	126,836	74,595	7
3	2	35	—	26	—	—	68	9	8
7,050	6,900	96,660	—	72,425	—	—	194,975	24,060	9
—	—	14	—	16	—	2	40	16	10
—	—	84,550	—	112,450	—	10,000	264,800	93,900	11
—	—	24	—	17	—	—	43	9	12
—	—	283,700	—	183,700	—	—	498,200	106,200	13
—	—	17	—	14	—	—	21	10	14
—	—	380,500	—	309,000	—	—	417,500	272,000	15
22	37	14	2	10	34	1	99	117	16
10,300	12,133	1,900	500	2,765	43,741	60	29,257	100,772	17
17	29	14	2	9	21	1	85	90	18
5,225	7,288	1,900	500	2,490	5,491	60	17,823	22,661	19
14	27	14	2	8	17	1	79	77	20
2,325	6,188	1,900	500	1,790	2,931	60	13,273	12,431	21
3	2	—	—	1	4	—	6	13	22
2,900	1,100	—	—	700	3,610	—	4,550	10,230	23
5	8	—	—	1	13	—	14	27	24
5,075	4,845	—	—	275	37,800	—	11,434	78,111	25
1	4	—	—	1	1	—	4	3	26
250	775	—	—	275	84	—	639	745	27
3	4	—	—	—	3	—	9	5	28
1,825	4,070	—	—	—	2,605	—	7,795	4,606	29
1	—	—	—	—	7	—	1	14	30
3,000	—	—	—	—	21,710	—	3,000	40,160	31
—	—	—	—	—	2	—	—	5	32
—	—	—	—	—	13,400	—	—	32,600	33
9	4	15	6	9	118	—	118	107	34
1,410	280	765	987	317	7,668	—	4,125	11,955	35
49	66	290	15	221	149	4	658	380	36
16,846	21,758	751,753	1,480	596,898	44,715	6,030	1,210,947	525,252	37
42	54	267	13	209	78	2	520	337	38
15,987	19,953	750,730	1,469	595,588	42,936	6,000	1,204,624	521,207	39
21	33	45	11	55	57	—	153	158	40
2,487	3,360	4,598	969	5,695	4,059	—	13,862	15,307	41
12	11	43	2	29	6	—	78	53	42
3,625	3,018	12,994	500	8,401	1,923	—	22,862	16,598	43
5	4	73	—	41	5	—	94	49	44
2,700	2,575	53,629	—	29,872	2,954	—	68,100	35,798	45
4	6	59	—	47	8	2	115	47	46
7,175	11,000	125,147	—	105,920	21,500	6,000	263,700	110,042	47
—	—	30	—	9	2	—	40	25	48
—	—	245,662	—	54,700	12,500	—	292,600	187,262	49
—	—	14	—	19	—	—	31	2	50
—	—	173,700	—	210,000	—	—	362,500	21,200	51
—	—	3	—	9	—	—	9	3	52
—	—	135,000	—	181,000	—	—	181,000	135,000	53
7	12	23	2	12	71	2	138	43	54
859	1,805	1,023	11	1,310	1,779	30	6,323	4,045	55
6	7	22	2	9	69	2	127	36	56
209	405	823	11	110	979	30	2,673	595	57
—	5	1	—	2	2	—	9	4	58
—	1,400	200	—	600	800	—	2,400	1,600	59
1	—	—	—	1	—	—	2	3	60
650	—	—	—	600	—	—	1,250	1,850	61

Table 15—Electric Energy Generated, 1922

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick Nouveau- Brunswick	Nova Scotia Nouvelle- Ecosse
ALL STATIONS						
Total K.W. Hours Generated ..(thousands)	6,740,750	122,568	522,675	262,625	37,009	36,911
Per cent of Total for Canada.....	100	1.82	7.75	3.90	0.55	0.54
K.W. hours Generated by Non-Generating Stations.....	13,075	30	140	500	—	8,121
K.W. Hours Generated by Generating station Stations.....	6,727,674	122,538	522,535	262,125	37,009	28,789
K.V.A. Capacity of Generating Stations....	1,822,452	70,356	173,040	85,476	17,221	22,161
Ratio of output to maximum capacity (per cent)	42.1	19.9	34.5	35.0	24.5	14.8
Average K.W. hours per K.V.A.....	3,692	1,742	3,020	3,067	2,149	1,296
Commercial Stations						
Total						
K.W. hours Generated.....(thousands)	5,111,456	69,590	506,947	115,751	33,782	14,359
K.V.A. Capacity.....	1,294,337	27,980	162,415	26,288	15,719	8,965
Ratio of output to maximum Capacity (p.c.)	45.1	28.4	35.6	50.3	24.5	18.3
Average K.W. hours per K.V.A.....	3,949	2,487	3,121	4,403	2,149	1,602
Hydraulic						
K.W. hours Generated.....(thousands)	5,073,213	66,224	504,572	115,613	17,973	1,829
K.V.A. Capacity.....	1,270,538	24,375	160,702	26,100	8,385	1,843
Ratio of output to maximum Capacity (p.c.)	45.6	31.0	35.8	50.6	24.5	11.3
Average K.W. hours per K.V.A.....	3,993	2,717	3,140	4,430	2,143	990
Fuel						
K.W. hours Generated.....(thousands)	38,243	3,366	2,377	138	15,809	125,30
K.V.A. Capacity.....	23,799	3,605	1,713	188	7,334	7,117
Ratio of output to maximum Capacity (p.c.)	18.3	10.7	15.8	8.4	24.6	20.1
Average K.W. hours per K.V.A.....	1,607	934	1,388	734	2,156	1,761
Municipal Stations						
Total						
K.W. hours Generated.....(thousands)	1,616,218	52,948	15,588	146,374	3,227	14,427
K.V.A. Capacity.....	528,115	42,376	10,625	59,188	1,502	13,200
Ratio of output to maximum Capacity (p.c.)	34.9	14.3	16.8	28.2	24.5	12.5
Average K.W. hours per K.V.A.....	3,060	1,249	1,467	2,473	2,148	1,093
Hydraulic						
K.W. hours Generated.....(thousands)	1,496,878	—	12,823	144,694	2,020	12,200
K.V.A. Capacity.....	432,996	—	8,265	57,475	663	11,269
Ratio of output to maximum Capacity (p.c.)	39.5	—	17.7	28.7	34.8	12.4
Average K.W. hours per K.V.A.....	3,457	—	1,551	2,518	3,047	1,083
Fuel						
K.W. hours Generated.....(thousands)	119,340	52,948	2,765	1,680	1,207	2,227
K.V.A. Capacity.....	95,119	42,376	2,360	1,713	839	1,931
Ratio of output to maximum Capacity (p.c.)	14.3	14.3	13.4	11.2	16.4	13.2
Average K.W. hours per K.V.A.....	1,255	1,249	1,172	981	1,439	1,153
Total Hydraulic						
K.W. hours Generated.....(thousands)	6,570,091	66,224	517,393	260,307	19,993	14,209
K.V.A. Capacity.....	1,703,534	24,375	168,967	83,575	9,048	13,117
Ratio of output to maximum Capacity (p.c.)	44.0	31.0	35.0	35.6	25.2	12.2
Average K.W. hours per K.V.A.....	3,857	2,717	3,062	3,115	2,210	1,070
Total Fuel						
K.W. hours Generated.....(thousands)	157,583	56,314	5,142	1,818	17,016	14,757
K.V.A. Capacity.....	118,918	45,981	4,073	1,901	8,173	9,048
Ratio of output to maximum Capacity (p.c.)	15.1	14.0	14.4	10.9	23.8	18.6
Average K.W. hours per K.V.A.....	1,325	1,225	1,262	956	2,082	1,631

*See page 9 for explanation.

Tableau 15—Energie électrique produite, 1922

Ontario	Prince Edward Is. — Ile du Prince- Edouard	Quebec	Saskatchewan	Yukon	
					TOUTES USINES
3,151,460	1,368	2,539,874	57,624	8,637	Total K.W. heures produits (milliers)
46.75	0.02	37.68	0.85	0.13	Pourcentage du total pour le Canada
2,202	—	80	—	—	K.W. heures produits par les usines non généra- trices
3,147,258	1,368	2,539,794	57,624	8,637	K.W. heures produits par les usines génératrices
784,031	1,480	617,938	44,715	6,030	Capacité des usines génératrices en K.V.A.
45.8	10.5	46.9	14.7	16.3	Proportion de la production à la capacité (p.c.)
4,014	924	4,110	1,289	1,432	Moyenne des K.W. heures par K.V.A.
					Usines commerciales
					Total
1,852,042	1,212	2,507,934	1,202	8,637	K.W. heures produits (milliers)
440,458	1,180	603,631	1,671	6,030	Capacité en K.V.A.
48.0	11.7	47.4	8.2	16.3	Proportion du rendement à la capacité (p.c.)
4,205	1,027	4,155	719	1,432	Moyenne des K.W. heures par K.V.A.
					Hydrauliques
1,851,299	78	2,507,028	—	8,599	W.K. heures produits (milliers)
439,683	332	603,113	—	6,000	Capacité en K.V.A.
48.1	2.7	47.5	—	16.4	Proportion de la production à la capacité (p.c.)
4,211	235	4,157	—	1,433	Moyenne des K.W. heures par K.V.A.
					A combustible
743	1,134	906	1,202	38	K.W. heures produits (milliers)
775	848	518	1,671	30	Capacité en K.V.A.
10.9	15.3	20.0	8.2	14.5	Proportion de la production à la capacité (p.c.)
959	1,337	1,749	719	1,267	Moyenne des K.W. heures par K.V.A.
					Usines municipales
					Total
1,295,216	156	31,860	56,422	—	K.W. heures produits (milliers)
343,573	300	14,307	43,044	—	Capacité en K.V.A.
43.0	6.0	25.4	15.0	—	Proportion de la production à la capacité (p.c.)
3,770	520	2,227	1,311	—	Moyenne des K.W. heures par K.V.A.
					Hydrauliques
1,294,442	—	30,699	—	—	K.W. heures produits (milliers)...
342,672	—	12,652	—	—	Capacité en K.V.A.
43.2	—	27.7	—	—	Proportion de la production à la capacité (p.c.)
3,777	—	2,426	—	—	Moyenne des K.W. heures par K.V.A.
					A combustible
774	156	1,161	56,422	—	K.W. heures produits (milliers)
901	300	1,655	43,044	—	Capacité en K.V.A.
9.8	5.9	8.0	15.0	—	Proportion de la production à la capacité (p.c.)
859	520	702	1,311	—	Moyenne des K.W. heures par K.V.A.
					Total hydrauliques
3,145,741	78	2,537,727	—	8,599	K.W. heures produits (milliers)
782,355	332	615,765	—	6,000	Capacité en K.V.A.
45.9	2.7	47.0	—	16.4	Proportion de la production à la capacité (p.c.)
4,021	235	4,121	—	1,433	Moyenne des K.W. heures par K.V.A.
					Total à combustible
1,517	1,290	2,067	57,624	38	K.W. heures produits (milliers)
1,676	1,148	2,173	44,715	30	Capacité en K.V.A.
10.3	12.8	10.9	14.7	14.5	Proportion de la production à la capacité (p.c.)
905	1,123	951	1,289	1,267	Moyenne des K.W. heures par K.V.A.

Table 16—Fuel, 1922

Tableau 16—Combustible, 1922

Province	Coal Charbon		Coke Coke		Gasoline and Coal Oil Gazoline et huile de charbon		Fuel Oil Pétrole	
	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur
	ton tonnes	\$	ton tonnes	\$	gal. gal.	\$	gal. gal.	\$
Canada.....	480,045	2,295,268	505	3,231	232,174	76,490	1,662,809	186,49
Alberta.....	187,322	442,349	1	37	40,155	13,206	6,657	1,53
British Columbia.....	10,068	58,938	—	—	1,277	415	1,253,734	93,15
Manitoba.....	28,828	206,294	400	1,800	18,575	6,376	104,540	18,36
New Brunswick.....	32,330	233,041	—	—	9,486	2,436	91,000	11,01
Nova Scotia.....	63,438	361,206	102	1,377	—	—	29,915	4,72
Ontario.....	28,392	238,775	—	—	8,837	2,060	3,100	3,00
Prince Edward Island.....	3,397	38,574	—	—	950	284	—	—
Quebec.....	8,712	78,968	—	—	7,555	2,706	1,384	1,42
Saskatchewan.....	117,558	637,123	2	17	145,339	49,007	172,479	53,22
Yukon.....	—	—	—	—	—	—	—	—

	Wood Bois		Gas Gaz		Other Fuel Autre combustible	Total
	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Value Valeur	Value Valeur
	cord corde	\$	1,000 cu. ft. 1,000 pd cu.	\$	\$	\$
Canada.....	17,169	84,331	449,998	17,617	13,120	2,676,554
Alberta.....	3	23	442,039	14,493	—	471,688
British Columbia.....	3,379	14,755	—	—	3,504	170,768
Manitoba.....	4,000	22,746	—	—	230	255,811
New Brunswick.....	300	1,000	5,809	2,324	—	249,819
Nova Scotia.....	135	575	—	—	2,622	370,506
Ontario.....	2,943	15,784	2,150	800	—	260,427
Prince Edward Island.....	100	400	—	—	—	39,258
Quebec.....	5	15	—	—	6,349	89,464
Saskatchewan.....	5,740	24,306	—	—	415	764,088
Yukon.....	564	4,727	—	—	—	4,727

CANADA
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY, 1923

CENTRAL ELECTRIC STATIONS
IN CANADA

Prepared in collaboration with the Dominion Water Power Branch, Department of the Interior, with the assistance of the Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and The Manitoba Power Commission)

Published by authority of the Hon. Thos. A. Low, M.P., Minister of Trade and Commerce



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CENSUS OF INDUSTRY, 1923

CENTRAL ELECTRIC STATIONS

PREFACE

The sixth annual report on the Central Electric Station Industry of Canada has been compiled by authority of the Statistics Act, 1918 (8-9 George V, Chapter 43), under the direction of Mr. G. S. Wrong, B.Sc., of the Dominion Bureau of Statistics.

The Electricity and Gas Inspection Service Branch, Department of Trade and Commerce; the Dominion Water Power Branch, Department of the Interior; the Hydro-Electric Power Commission of Ontario; and other provincial departments and commissions have assisted in the collection of the schedules. Under the co-operative arrangement between the Bureau and the Dominion Water Power Branch, the schedules and report have been checked, under the direction of Mr. J. T. Johnston, Assistant Director, by Mr. Alexander Roger, Engineer of the Dominion Water Power Branch. The cordial thanks of the Bureau are tendered to the several departments co-operating as above and to the managers of the Central Electric Stations for their promptness in supplying the data.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, December 16, 1924.

NOTE ON CANADIAN WATER-POWERS FOR CENTRAL STATIONS REPORT FOR 1923

Canada is richly endowed with water-power resources. Practically every large industrial centre throughout the Dominion is now served with hydro-electric energy and has within easy transmission distance ample reserves of water-power. In both the central electric station and pulp and paper industries of Canada hydraulic energy furnishes more than 90 per cent of the prime motive power employed.

The administration of the water resources of the Dominion is a divided federal and provincial responsibility. The Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada, is directly concerned with power and storage projects on all navigable bodies of water. In Alberta, Saskatchewan, Manitoba and the Yukon and Northwest Territories, control is vested in the Department of the Interior, Dominion Water Power Branch. Throughout the remainder of Canada, administration is carried out by the following respective provincial authorities: British Columbia, Department of Lands; Ontario, Department of Lands and Forests; Quebec, Department of Lands and Forests; Nova Scotia, Commissioner of Public Works and Mines; New Brunswick, Department of Lands and Mines; Prince Edward Island, Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

The year just passed has witnessed a growth of over 300,000 horse-power in the hydraulic installation of the country, 90 per cent of which has been installed in central electric stations, while developments under construction or in actual prospect are expected to add another 640,000 horse-power before the end of 1925. Construction has been most active in the province of Quebec, the outstanding additions being 120,000 horse-power at the St. Maurice Power Company's station at La Gabelle, 22,000 horse-power at the Montreal Light, Heat and Power Consolidated's station at Cedars, and 20,000 installed on the Quinze river by the Northern Canada Power Company. The Saguenay development of the Duke-Price Power Company is rapidly nearing completion, 90,000 horse-power to be available by January, and 360,000 horse-power by September, 1925. The Ottawa River Power Company's Bryson development of 25,000 horse-power and the Hemmings Falls station of the Southern Canada Power Company, with 33,600 horse-power, will also be completed before the end of 1925. In Ontario the rapidly growing demand for power around the head of the Great Lakes has led to the installation of 2 units totalling 25,000 horse-

power in the Hydro-Electric Power Commission's Nipigon station, with the expectation of 2 similar units in 1925, completing the ultimate installation of 75,000 horse-power. At the Chippawa-Queenston station, units of 6 and 7 were brought into operation, and numbers 8 and 9 are expected to be in place before the end of 1925. The 10th and last unit will complete the total installation of 550,000 horse-power in 1926. Other activities of the Commission include the installation of 600 horse-power at Bingham Chutes for the Nipissing system and 6,600 horse-power on the Trent river for the Central Ontario system. New stations and additional equipment are being provided to supply the growing demand for power in the mining fields of Northern Ontario. Among these may be mentioned the 24,000 station recently completed by the Hollinger Consolidated Gold Mines, Limited, 2,000 horse-power additional installation by the Great Northern Power Company, 2,750 horse-power by the Lorne Power Company, and 1,100 h.p. by the Northern Ontario Light and Power Company, while much of the power generated by the Quinze river, Quebec, development, will also find a market here. Additional power for this area will be provided by a 7,000 horse-power extension to the Wahnapiatae Power Company's plant in 1925. In the Maritime Provinces some 15,000 horse-power was added to the central electric station installation during 1924. While only one installation was completed in the Western Provinces during 1924, preliminary work under way indicates considerable activity for 1925. The West Kootenay Power and Light Company have demolished their 4,000 horse-power station at Lower Bonnington Falls and expect to have 40,000 horse-power of a 60,000 horse-power installation completed by the end of 1925, while the British Columbia Electric Railway Company will have increased the capacity of their Stave Falls plant to 75,000 horse-power by the same time.

The Dominion Water Power Branch, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful re-analysis and computation by the branch, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hour power at 80 p.c. efficiency		Turbine Installation h.p.
	At ordinary minimum flow h.p.	At ordinary 6 months flow h.p.	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	355,722
Alberta.....	475,281	1,137,505	34,107
Saskatchewan.....	513,481	1,087,756	35
Manitoba.....	3,270,491	5,769,444	162,025
Ontario.....	4,950,300	6,808,190	1,585,182
Quebec.....	6,915,244	11,640,052	1,308,106
New Brunswick.....	50,406	120,807	44,656
Nova Scotia.....	20,751	128,264	63,957
Prince Edward Island.....	3,000	5,270	2,276
Yukon and Northwest Territories.....	125,220	275,250	13,209
	18,255,316	32,075,998	3,569,275

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the *minimum water-power possibilities* of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 387 horse-power per 1,000 population Canada stands well to the fore in respect to availability and utilization of hydro-power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, December 16, 1924.

CENTRAL ELECTRIC STATIONS, 1923

The report on the seventh census of the central electric station industry of Canada is of increased interest on account of important activities during the past months.

The first world power conference was held in London, England, during July, 1924, when Canada was ably represented by authorities on the different phases of power generation. The conference allowed of an interchange of ideas on water-power development and transmission, uses, etc., of electricity, and will undoubtedly be of considerable advantage to the central electric station industry, especially in Canada, where the industry is playing such an important part in the industrial and economic development of the country.

There are now four provincial commissions engaged in developing, purchasing, distributing and selling electric energy, and public ownership of this industry is growing rapidly (see Table 1). Considerable interest was aroused over this aspect of the industry by the Public Ownership Conference during September, 1923, in Toronto, the headquarters of the Ontario Hydro-Electric Power Commission, which has jurisdiction over the largest existing public-ownership enterprise of its kind.

Another incident of importance to the industry was the formation in 1924 of the Joint Board of Engineers by Canada and the United States to investigate further the costs, etc., of the St. Lawrence Waterways which in addition to navigation works, will include hydro-electric works for the development of between 1,500,000 horse-power and 2,000,000 horse-power. If it is carried through, it will be one of the largest developments in the world, and will undoubtedly give a great impetus to industries in the adjacent provinces and states.

According to returns made under the Electricity and Fluid Exportation Act, central electric stations exported 1,344,199,267 k.w. hours during 1923, which was 16.6 per cent of the total output of all stations. Three stations on the Niagara river exported 878,335,200 k.w. hours, or 65 per cent of the total quantity exported, and one station on the St. Lawrence exported 30 per cent of the total. A complete list of all companies exporting electric energy to the United States is shown below. Practically the only electricity imported is at Sarnia, Ontario, where the St. Clair Tunnel Company imports some for operation of their locomotives and shops and a small quantity for sale.

K.W. HOURS EXPORTED TO THE UNITED STATES, CALENDAR YEAR 1923

	Exported	Total Generated
	k.w. hours	k.w. hours
Maine and New Brunswick Electric Power Co.....	10,209,784	10,634,050
Sherbrooke Railway and Power Co.....	42,495	7,393,900
Cedar Rapids Manufacturing and Power Co.....	405,524,000	739,830,000
Ontario Power Co.....	332,866,100	859,981,900
Toronto Power Co.....	193,009,750	727,702,990
Canadian Niagara Power Co.....	352,459,350	577,567,000
Ontario and Minnesota Power Co.....	10,365,200	23,914,214
Western Canada Power Co.....	38,450,560	129,548,600
West Kootenay Power and Light Co.....	554,900	193,222,500
British Columbia Electric Railway Co.....	717,128	149,787,764
Total.....	1,344,199,267	3,419,582,918

Approximately 60 per cent of the population of Canada is in the provinces of Ontario and Quebec, and in these provinces is invested over 80 per cent of the capital of Canada's industries. The industries of these provinces are dependent entirely on electric power and imported coal and by far the greater part of the coal is from other countries, which adversely affects Canada's trade balance.

Since practically all the electrical energy generated by central electric stations in Ontario and Quebec is hydro-electric, the saving in the consumption of foreign coal is large. The central electric station industry is not the sole factor in the industrial development in these provinces, but it has played an important part and its importance continues to increase throughout the Dominion.

The inclusion of the Queenston power plant of the Ontario Hydro-Electric Power Commission for the first time in the 1922 Census, also the completion of several large developments in Ontario, Quebec, British Columbia, Manitoba, New Brunswick and Nova Scotia created a large increase in capital and installed power in 1922 as compared with 1921, and consequently a comparison between 1923 and 1922 data in this respect is not so favourable, the increase in capital being only 2 per cent, or \$13,403,831, the increase in the industry in Ontario accounting for over \$12,500,000 of this. This does not mean, however, that the industry was stagnant in the other provinces. In New Brunswick the capital invested in central electric stations was almost doubled, mainly by the inclusion in the Census of the works of the New Brunswick Power Commission. The decrease in capital in the province of Quebec, amounting close to \$5,000,000 was a readjustment in the capital reported, not in an actual decrease in plant.

Since the 1922 census the Ontario Hydro-Electric Power Commission took over the entire plant of the Toronto Power Company. On this account it is not possible to make direct comparisons between the increase in commercial and municipal stations in Ontario or in the Dominion as a whole. In the other provinces, however, there were no such transfers, so that the data for 1923 and 1922 are comparable.

For census purposes a central electric station has been considered as any municipality, company or other organization selling electricity. The municipalities in Ontario buying electric energy from the provincial commission and selling it to the consumers have been considered as central electric stations, but such conditions did not exist to anywhere the same extent in the other provinces, and where large distributing companies sold direct to consumers in several municipalities each company was considered as only one station and each municipality so served was not counted as a station. Although the treatment was correct according to the definition adopted, it led to misunderstandings, and consequently the table 3 dealing with stations has been revised.

STATIONS (Table 3).—The first part of table 3 is purely a table of electric power plants, each power plant being counted, no matter how operated, i.e., two or more power plants under one management were each counted as one power plant. The table also shows the number of organizations operating in each province. It will be noted that over 80 per cent of the municipalities buying power for redistribution were in Ontario, the operation of the provincial commission being mainly responsible for this. The lower part of the table shows the cities, towns and villages served by central electric stations and the population of such municipalities. These population data are only approximate, as many villages are unincorporated and the population had to be secured from other sources than the official population census. The populations also do not include the rural populations on the outskirts of cities nor the populations

throughout the rural districts which are served by central electric stations. The census of population includes as the rural, all population outside the borders of the cities, and it is not possible to segregate that part which has electric service. The only exception to this was South Vancouver and Point Grey in British Columbia, which had populations aggregating over 45,000 but were unincorporated. It will not be correct therefore to divide these populations by the number of domestic light customers shown in table 9 to secure the number of persons per hundred buying electricity, although such computations will show in a rough way the density of service in the municipalities served in the various provinces. It will be noted that of the 300 municipalities served by fuel stations, 108 are in Saskatchewan and 60 in Alberta. In these provinces there are a great many small plants with internal combustion engines as the primary power and in Saskatchewan there is no water power at all used in this industry.

CAPITAL (Table 4).—The subdivisions of capital have been changed, showing the capital for generation, transmission, distribution and general, which is considered a more logical division for this industry than that used in previous reports. It is difficult, however, for some of the stations to make such a division accurately, and care, therefore, should be used when using these subdivisions. The averages of capital per horse-power for primary power are the total capital divided by the total power in main plants, and by the total primary power including the auxiliary equipment. The average capital per horse-power of all equipment showed a decrease for Canada of \$10, the average for Ontario being less by \$20, which was partially accounted for by additional wheels being installed in the Queenston plant of the Ontario Hydro-Electric Power Commission: there were only three wheels included in the 1922 census, and two additional wheels were added in 1923, increasing the horse-power by 110,000. There was also 10,000 horse-power added in Northern Ontario. The heavy expenditure for the Queenston plant was included in the 1922 report, so that while the installation of additional wheels increased the capital, it did not increase it in the same ratio as the increase in horse-power, and this will be further emphasized in the census for 1924, when 2 more wheels were installed. In Quebec the difference was \$13 per horse-power, due to the decrease above noted in the capital and a net increase in installations of 29,283 horse-power. The Montreal Light, Heat and Power Company installed new wheels aggregating 22,600 horse-power and the Ottawa and Hull Power Company installed a new wheel with a capacity of 7,500 horse-power. The large increase in New Brunswick of \$45 per horse-power was due principally to the initial developments of the New Brunswick Power Commission. With the installation of additional wheels, this average will also be decreased as was the case in Ontario.

REVENUES (Table 5).—The gross revenues are the total of the gross revenues reported by each individual station and include considerable duplications where power passes through two or three organizations before it reaches the consumers. The table has, therefore, been altered to show also the net revenues or the gross revenues less the amounts paid by Central Electric Stations to other Central Electric Stations for power, the remainder being the revenues received from consumers. In making a comparison as between provinces, it is clearly seen that only the net revenues are comparable, as in Ontario, for example, over 35 per cent of the gross revenues represents amounts paid for electric energy interchanged between central electric stations, whereas in Saskatchewan the amount paid for power interchanged between stations was negligible. The average net revenues are the net revenues of both generating and non-generating stations divided by the primary and secondary power as indicated.

At the foot of the table is shown the average net revenue of all stations and of generating stations per k.w. hour generated. The difference, of course, is the revenue of the non-generating stations which purchase their power from the generating stations. These average revenues include service charges, meter rentals and all other items entering into the monthly bills. It must also be understood that these net revenues include all line, transformer and other losses and are therefore somewhat below the average price per k.w. hour paid by the consumer. The nature of the industry or the manner in which electric energy is used has a great deal to do with these averages, since the price per k.w. hour charged for lighting service is generally at a higher rate than for power service. Consumers of large blocks of power invariably are able to secure a price much below small power consumers and very much below the lighting rate, especially if they use the power at off-peak-load periods. The statistics, however, do not segregate the power used for lighting services, so that it is impossible to make comparisons as between municipalities or provinces except on the total consumption. When making comparisons of any kind such factors as nature of consumers, the source of energy, whether from hydro-electric or fuel stations, the number of lighting customers, and all such factors must be considered.

FREE SERVICE (Table 6).—The commercial stations have estimated at current rates the value of the electric energy supplied to municipalities for lighting parks, public buildings, etc., for which no direct recompense is received. Previous reports have shown similar amounts from municipal stations, but since with municipal stations such amounts were largely a matter of book-keeping, and should properly be credited to the lighting department, the report this year includes such amounts with the revenues of municipal stations.

EXPENSES (Table 7).—The only item in this table needing explanation is that of cost of power, which, as stated above, is the amount paid by central electric stations to other central electric stations for electrical energy and it is these amounts which have been deducted from the gross revenue to obtain the net revenue.

EMPLOYEES (Table 8).—With straight generating and distributing companies it is a simple matter to report the number of employees, but with municipal stations, where an official is employed only part time in the lighting plant, and with industries which only incidentally sell electric energy, it is difficult to accurately allocate employees to this industry. The data are valuable however, to make comparisons from year to year to show the growth of employment in the industry.

CUSTOMERS (Table 9).—The increase in the total number of customers of central electric stations in Canada was 59,000, or 5 per cent, the increase in Ontario being 32,274, and in Quebec, 10,225. The large increase in Ontario was made up of 28,373 domestic lighting customers, 3,901 commercial light and power customers; in previous years the power customers and commercial light customers were included under the head "Commercial Customers." On account of the transfer of the customers of the Toronto and Niagara Power Company to the municipal systems, it is impossible to show the actual growth in the number of municipal and commercial customers in Ontario. At the foot of this table the averages of the number of domestic light customers per 100 population are based on the domestic light customers and the estimated populations for each province.

POLE LINE MILEAGE (Table 10).—Distribution pole line mileage is credited with all pole line mileage between generating stations and consumers where the power is not stepped up for transmission but transmitted at the generated

voltage, and it also includes all pole lines carrying both primary and secondary circuits. The growth of the pole line mileage is a fair indication of the steady advancement of the service into new territories. The increase in the total pole line mileage in Canada over 1922 was 4 per cent; in New Brunswick the increase was 14 per cent, jumping from 614 to 844 miles, and in Ontario it increased 630 miles or 6.3 per cent.

EQUIPMENT (*Tables 11, 12, 13 and 14*).—All steam engines and internal combustion engines in hydro-electric plants are considered as auxiliary. In a few cases, however, the steam equipment is of greater capacity than the hydro-electric equipment, and also in some plants the steam equipment operates continuously more as a complement to the hydro-electric equipment than as a supplement. In other stations the steam equipment is only operated to take care of peak loads, daily and seasonal, or in case of a shortage of power. In still others it is idle throughout the year and held strictly in reserve. There are a few stations buying their entire supply of electric energy, holding in reserve steam equipment, and also six stations buying practically all their supply but generating small quantities with their reserve equipment. All this equipment, however, is classed as auxiliary equipment.

Main plant equipment includes only water wheels and turbines in hydro-electric stations and the dynamos driven by them, but in the fuel stations it includes all the equipment, although in some fuel stations units are held in reserve.

Table 11 shows auxiliary and main plant equipment added together, and tables 12 and 13 show the auxiliary and main plant equipment separately. Table 14 shows the main plant equipment graded according to the manufacturers' rating and shows in which provinces the various sized units are located. The large D.C. dynamos throughout Canada are used almost exclusively for street railway operation.

ELECTRIC ENERGY (*Table 15*).—As previously explained, the k.w. hours generated by non-generating stations are the small quantities occasionally generated by equipment held in reserve by stations which purchase practically all of their supply, except for the municipal plant at Windsor, Ontario, which buys the greater part of its electricity from the provincial commission, but also generates current continuously throughout the year by using the exhaust steam from a salt plant.

The k.w. hours are metered at the power-house, and therefore include all line and transformer losses. The ratio of output to maximum capacity is the total k.w. hours generated divided by the product of 8,760 hours and the K.V.A. capacity of all dynamos in the generating stations, including not only the main plant dynamos, but also the auxiliary dynamos. Including the auxiliary equipment lowers somewhat the average output of the dynamos actually in use, but in some stations large quantities of power are generated by the auxiliary equipment and it was considered more conservative to include them and decrease the average than to exclude them and boost the average. In view of the large variation in the load of central electric stations not only throughout the day but throughout the year, an average ratio of output to maximum capacity of 50 to 55 per cent such as existed in the hydro-electric stations in Quebec and Ontario, is an exceedingly high ratio, and of course it is possible only with a large number of customers using power more or less continuously and with large hydro-electric stations. The ratio shows a very considerable increase; for all of Canada and for all classes of stations it increased from 42.1 per cent in 1922 to 47 per cent. In 1922 the highest ratio existing was 48.1 in commercial hydro-electric stations in Ontario, and in 1923

it jumped to 55.3 per cent in municipal hydro-electric stations in Ontario. The average k.w. hour per K.V.A. is the k.w. hours generated divided by the K.V.A. capacity of the total dynamo equipment.

FUEL (*Table 16*).—This table includes fuel used only in the generation of power for sale, used both in fuel stations and by the auxiliary equipment in hydro-electric stations. Natural gas is used in Alberta not only in internal combustion engines, but also under boilers. The low price of coal used in Alberta is due to a large percentage of it being screenings from the local mines.

Table 1—Comparative Summary, 1923-1919
Tableau 1—Résumé comparatif, 1923-1919

Principal Data by Class of Station Données principales par classes d'usines		1923	1922	1921	1920	1919	Per cent increase 1923 over 1919 — Pourcentag d'augmen- tation de 1923 sur 1919
Electric Power Plants—	Usines généra- trices—						
Total.....	Total.....	532	522	510	506	493	7.9
Hydraulic.....	Hydrauliques.....	269	269	259	258	272	-1.1
Fuel.....	A combustible.....	263	253	251	248	221	19.0
Commercial.....	Commerciales.....	335	326	317	321	306	8.7
Municipal.....	Municipales.....	197	196	193	185	187	5.3
Capital—	Capitaux—						
Total.....	Total.....	581,472,583	568,068,752	484,669,451	448,273,642	416,512,010	39.6
Commercial.....	Commerciales.....	307,046,240	326,448,922	327,439,827	311,160,342	287,558,443	6.8..
Municipal.....	Municipales.....	274,426,343	241,619,830	157,229,624	137,113,300	128,953,567	112.8
Generating.....	Productrices.....	489,055,939	484,635,750	410,382,619	380,372,831	365,389,364	33.9
Non-generating.....	Non productrices.....	92,386,644	83,433,002	74,286,832	67,900,811	51,122,646	80.7
Revenue—	Recettes—						
Total.....	Total.....	91,141,296	82,328,866	73,376,580	65,705,060	57,853,392	57.5
Commercial.....	Commerciales.....	44,357,223	44,776,945	42,713,327	39,904,747	35,552,867	25.2
Municipal.....	Municipales.....	46,601,642	37,551,921	30,663,253	25,800,313	22,300,525	108.9
Generating.....	Productrices.....	62,304,186	56,385,731	52,446,929	48,042,642	45,420,566	37.2
Non-generating.....	Non productrices.....	28,837,110	25,943,135	20,930,651	17,662,418	12,432,826	131.9
Expenses—	Dépenses—						
Total.....	Total.....	54,968,077	49,962,644	47,044,503	45,100,946	34,341,923	60.1
Commercial.....	Commerciales.....	24,357,223	22,988,298	24,943,355	24,692,105	19,201,892	26.8
Municipal.....	Municipales.....	30,610,854	26,974,346	22,101,148	20,408,841	15,140,031	102.2
Generating.....	Productrices.....	32,472,789	29,331,675	29,389,443	29,684,712	24,281,570	33.7
Non-generating.....	Non productrices.....	22,495,338	20,630,969	17,655,060	15,416,234	10,060,353	123.6
Pole Line Mileage—	Lignes sur poteaux—						
Total.....	Total.....	23,560	22,669	21,714	23,879	20,466	15.1
Commercial.....	Commerciales.....	11,146	11,123	10,987	10,721	10,784	3.4
Municipal.....	Municipales.....	12,414	11,546	10,727	10,158	9,682	28.2
Generating.....	Productrices.....	14,405	13,927	13,460	13,651	14,111	2.1
Non-generating.....	Non productrices.....	9,155	8,742	8,254	7,228	6,355	44.1
Customers—	Abonnés—						
Total.....	Total.....	1,112,547	1,053,545	973,212	894,158	-	-
Domestic Light.....	Eclairage domesti- tique.....	920,223	889,346	830,062	764,907	-	-
Commercial Light.....	Eclairage commer- cial.....	159,929	164,199	143,150	129,251	-	-
Power.....	Force motrice.....	32,395	476,285	466,235	437,672	-	-
Comm. stations.....	Commerciales.....	496,591	577,260	506,977	456,486	-	-
Municipal stations.....	Municipales.....	615,956	533,923	531,643	504,026	-	-
Generating.....	Productrices.....	547,928	519,622	441,569	390,132	-	-
Non-generating.....	Non productrices.....	564,619	-	-	-	-	-
Electric Energy Gen-Energie électrique erated—	produite						
Total kilowatt hours (thousands)	K.W. heures pro- duit (milles)	*8,099,192	*6,740,750	5,614,132	5,894,867	5,497,294	47.3
Commercial.....	Commerciales.....	5,074,120	5,119,676	4,316,272	4,456,428	4,191,223	21.1
Municipal.....	Municipales.....	3,025,072	1,621,074	1,297,860	1,438,439	1,305,981	131.6
Equipment in generating stations (main Plant only).	Machinerie dans les usines productrices (Machines des usines principales)						
Total primary power.....	H.P.	2,423,845	2,258,398	1,977,857	1,897,024	1,907,135	27.0
Total pour motrice primaire.....	H.P.	2,423,845	2,258,398	1,977,857	1,897,024	1,907,135	27.0
Water-wheels and turbines.....	No.....	641	629	604	594	610	5.0
Turbines et roues hydrauliques.....	H.P.	2,282,547	2,112,289	1,826,357	1,754,130	1,736,981	31.4
Steam reciprocating engines.....	No.....	159	175	187	196	198	-19.6
Machines à vapeur.....	H.P.	37,116	40,484	45,450	49,430	53,068	-30.1
Steam turbines.....	No.....	38	41	43	37	38	-14.7
Turbines à vapeur.....	H.P.	87,767	89,545	90,705	80,750	102,865	92.6
Internal combustion engines.....	No.....	262	225	203	179	136	15.4
Moteurs à gaz et à pétrole.....	H.P.	16,415	16,080	15,345	12,714	14,221	1.6
Total in commercial stations.....	H.P.	1,451,498	1,565,229	1,443,533	1,416,488	1,428,918	103.3
Total dans les usines commerciales.....	H.P.	972,347	693,169	534,324	481,536	478,217	25.1
Total in municipal stations.....	H.P.	972,347	693,169	534,324	481,536	478,217	25.1
Total dans les usines municipales.....	H.P.	972,347	693,169	534,324	481,536	478,217	25.1
Total secondary power.....	K.V.A.	1,861,845	1,736,199	1,475,610	1,451,829	1,457,790	2.9
Total force motrice secondaire.....	K.V.A.	1,861,845	1,736,199	1,475,610	1,451,829	1,457,790	2.9
Dynamos A.C.....	No.....	860	857	841	817	836	25.6
Dynamos C.A.....	K.V.A.	1,852,396	1,725,831	1,464,022	1,439,937	1,474,969	62.5
Dynamos D.C.....	No.....	208	181	172	165	128	-26.3
Dynamos C.D.....	K.W.	9,449	10,368	11,588	11,892	12,821	2.6
Total in commercial stations.....	K.V.A.	1,140,945	1,210,947	1,086,128	1,078,611	1,112,494	92.1
Total dans les usines commerciales.....	K.V.A.	720,900	525,252	389,482	373,218	375,296	92.1
Total in municipal stations.....	K.V.A.	720,900	525,252	389,482	373,218	375,296	92.1
Total dans les usines municipales.....	K.V.A.	720,900	525,252	389,482	373,218	375,296	92.1

*Estimates for stations not reporting output included in 1922 and 1923.

*Estimation pour usines ne faisant pas rapport de leur production donnée pour 1922 et 1923.

Table 2—Summary of Principal Data 1923

	Total		Commercial — Commerciales		Municipal — Municipales	
	1923	1922	1923	1922	1923	1922
	1	2	3	4	5	6
Total Number of Electric Power Plants...	532	522	335	326	197	196
No. of hydraulic plants.....	269	269	194	196	75	73
No. of fuel plants.....	263	253	141	130	122	123
Total capital.....	581,472,583	568,068,752	307,046,240	326,448,922	274,426,343	241,619,830
Lands, buildings, equipment, etc.....	520,945,570	508,050,328	271,776,655	280,149,777	249,168,915	227,900,551
Materials on hand, cash trading accounts etc.....	60,527,013	60,018,424	35,269,585	46,299,145	25,257,428	13,719,279
Total Gross Revenue from Sale of Electric Energy.....	91,141,296	82,328,866	44,539,654	44,776,945	46,601,642	37,551,921
For lighting purposes.....	33,187,276	31,698,501	14,714,521	14,806,089	18,472,755	16,894,412
For all other purposes.....	57,954,020	50,630,365	29,825,133	29,970,856	28,128,887	20,659,509
Net revenue.....	67,496,893	62,173,179	37,040,835	37,894,341	30,456,058	24,278,838
Free Service (Value at Commercial Rates).....	34,490	277,039	34,490	37,661	.....	239,378
Total Operating Expenses.....	54,968,077	49,962,644	24,357,223	22,988,298	30,610,851	26,974,346
Salaries and wages.....	14,784,038	14,495,250	6,500,590	6,551,984	8,283,448	7,944,166
Fuel.....	2,638,888	2,676,556	1,319,985	1,270,063	1,318,903	1,405,593
Cost of power.....	23,644,403	20,155,687	7,498,819	6,882,604	16,145,584	13,273,083
Miscellaneous.....	13,900,748	12,635,151	9,037,829	8,283,647	4,862,919	4,351,504
Total Number of Employees.....	11,094	10,684	5,049	4,994	6,045	5,690
Total Mileage of Pole Lines.....	23,560	22,669	11,146	11,123	12,414	11,546
For transmission.....	8,406	8,296	4,361	4,479	4,045	3,817
For distribution.....	15,154	14,373	6,785	6,644	8,369	7,729
Total Number of Customers.....	1,112,547	1,053,515	496,591	476,285	615,956	577,260
Domestic light.....	920,223	889,346	400,337	408,755	510,886	480,591
Commercial light.....	159,929	164,199	72,229	67,530	87,700	96,669
Power.....	32,395	—	15,025	—	17,370	—
Total K.W. hrs. generated (thousands).....	8,099,192	6,740,750	5,071,120	5,119,676	3,025,072	1,621,074
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1923	1922	1923	1922	1923	1922
	1	2	3	4	5	6
Total Primary Power..... H.P.	2,423,845	2,258,398	1,451,498	1,565,229	972,347	693,169
Water Wheels and turbines..... No.	641	629	470	470	171	159
..... H.P.	2,282,547	2,112,289	1,419,838	1,531,847	802,709	580,442
Steam reciprocating engines..... No.	159	175	76	85	83	90
..... H.P.	37,116	40,484	16,068	17,823	20,448	22,661
Steam turbines..... No.	88	41	12	14	26	27
..... H.P.	87,767	89,545	10,259	11,434	77,508	78,111
Gas and oil engines..... No.	262	225	150	118	112	107
..... H.P.	16,415	16,080	4,733	4,125	11,682	11,955
Total Secondary Power..... K.V.A.	1,861,845	1,736,199	1,140,945	1,210,947	720,900	525,252
Dynamos, A.C..... No.	860	857	512	520	348	337
..... K.V.A.	1,852,396	1,725,831	1,134,744	1,204,624	717,652	521,207
Dynamos, D.C..... No.	208	181	165	138	43	43
..... K.W.	9,449	10,368	6,201	6,323	3,248	4,045

* Less than 0.1 per cent.

Tableau 2—Résumé comparatif des données principales, 1923-1922

Generating — Productrices		Non-Generating — Non-productrices		Per Cent of Column 1 Pour cent de la 1ère col.				
1923	1921	1923	1922	Com- mer- ciales 1922	Mu- ni- ci- pales 1923	Gen- erat. Prod. 1923	Non Gen. prod. 1923	
7	8	9	10	11	12	13	14	
532	522	—	—	63.0	37.0	100.0	—	Nombre d'usines génératrices
267	269	—	—	72.1	27.9	100.0	—	Nombre d'usines hydrauliques.
263	253	—	—	53.6	46.4	100.0	—	Nombre d'usines à combustible
489,085,939	484,635,750	92,386,644	83,433,002	52.8	47.2	84.1	15.9	Total des capitaux
452,146,668	437,584,232	68,798,902	70,466,096	52.2	47.8	86.8	13.2	Terrains, bâtiments, aménagements, etc.
36,939,271	47,051,518	23,587,742	12,966,906	58.3	41.7	61.0	39.0	Matières premières en stock, fonds en caisse, créances à recouvrer, etc.
64,780,162	56,385,731	26,361,134	25,943,135	48.9	51.1	71.1	28.9	Total des rec. prod. par l'élec., vendue
26,748,806	16,249,651	6,438,470	15,448,850	44.3	55.7	80.6	19.4	Pour éclairage.
38,031,356	40,136,080	19,922,664	10,494,285	51.5	48.5	65.6	34.4	Pour tout autres usages.
52,681,003	48,102,823	14,815,890	14,270,456	54.9	45.1	78.0	22.0	Revenu net
31,318	190,249	3,172	86,790	—	—	90.8	9.2	Serv. gratuit (val. au prix du com- merce
32,472,739	29,331,675	22,495,338	20,630,969	44.3	55.7	59.1	40.9	Total des dépenses d'exploitation
8,746,298	8,468,338	6,037,740	6,026,912	44.0	56.0	59.2	40.8	Traitements, appoint. et salaires
2,622,624	2,553,589	17,264	122,967	50.0	50.0	99.4	0.6	Combustible
9,623,183	8,282,908	14,021,220	11,872,779	31.7	68.3	40.7	59.3	Achat de force motrice électrique
11,480,634	10,026,840	2,420,114	2,608,311	65.0	35.0	82.6	17.4	Dépenses diverses
6,545	6,237	4,548	4,449	45.5	54.5	59.0	41.0	Nombre total du personnel
11,405	13,927	9,155	8,742	47.3	52.7	61.1	38.9	Long. en milles des lignes sur poteaux
7,364	7,068	1,042	1,228	51.9	48.1	87.6	12.4	De transmission
7,041	6,859	8,113	7,514	44.8	55.2	46.5	53.5	De distribution
547,928	533,923	564,619	519,622	44.6	55.4	49.2	50.8	Nombre total des abonnés des usines
456,969	465,251	463,254	424,095	44.5	55.5	49.7	50.3	Télégraphie, commerçants
75,337	68,672	84,592	95,627	45.2	54.8	47.1	52.9	Eclairage, particuliers
15,622	—	16,773	—	46.4	53.6	48.2	51.8	Force motrice
8,094,171	6,727,674	5,021	13,076	62.7	37.3	100.0	*	Total des kilowatt-heures produits (milliers)
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)				Total Power Equipment in Auxiliary Plants				
Per Cent of Columns 1 & 2		Per Cent of Totals of Columns 3, 4, 5 & 6		—				
Pourcent des col. 1 et 2		Pourcent des col. 3, 4, 5 et 6		Machines des usines auxi- liaires				
Commercial	Municipal	Commercial	Municipal					
1923	1922	1923	1922	1923	1922	1923	1922	
7	8	9	10	11	12	13	14	
59.9	69.3	40.1	30.7	100.0	100.0	100.0	100.0	Total, force motrice primaire, H.P.
73.3	74.7	26.7	25.3	—	—	—	—	Turbines et roues hydrauliques nomb.
62.2	72.5	37.8	27.5	97.8	97.9	88.7	83.7	H.P.
47.8	48.6	52.2	51.4	—	—	—	—	Machines à vapeur..... nomb.
44.9	44.0	55.1	56.0	01.1	01.1	2.1	3.3	H.P.
31.6	34.1	68.4	65.9	—	—	—	—	Turbines à vapeur..... nomb.
11.7	12.8	88.3	87.2	00.8	00.7	8.0	11.3	H.P.
57.3	52.4	42.7	47.6	—	—	—	—	Moteurs à gaz et à pétrole..... nomb.
28.8	25.7	71.2	74.3	00.3	00.3	1.2	1.7	H.P.
61.3	69.7	38.7	30.3	100.0	100.0	100.0	100.0	Total, force motrice secondaire K.V.A.
59.5	60.7	40.5	39.3	—	—	—	—	Dynamos, C.A..... nomb.
61.3	69.8	38.7	30.2	99.5	99.5	99.5	99.2	K.V.A.
79.3	76.2	20.7	23.8	—	—	—	—	Dynamos C.D..... nomb.
65.6	61.0	34.4	39.0	0.5	0.5	0.5	0.8	K.W.

* Less than 1 per cent.

* Moins que 1 pour cent.

Table 3—Electric Power Plants—Municipalities served 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Number Power Generating Stations	532	6	4	26	36	38
Per cent of total for Canada	100.00	11.28	7.52	4.88	6.77	7.14
Commercial	335	31	26	11	18	21
Hydraulic	194	4	26	2	7	8
Fuel	141	27	6	9	12	13
Municipal	197	29	15	15	7	17
Hydraulic	75	7	8	2	3	10
Fuel	122	22	7	13	4	7
With water wheels and turbines only	234	3	21	1	8	16
With water wheels, turbines and fuel auxiliary	35	1	1	3	2	2
With steam engines only	87	27	8	10	7	12
With steam turbines only	8	—	—	—	1	3
With gas or oil engines only	150	21	5	12	5	2
With both steam engines and turbines	8	3	—	—	1	2
With both steam and gas or oil engines	—	—	—	—	2	1
With both steam turbines and gas or oil engines	1	1	—	—	—	—
With alternating current dynamos only	390	39	37	15	19	33
With direct current dynamos only	127	19	4	11	6	4
With both alternating and direct current dynamos	6	2	—	—	1	1
Commercial organizations	376	37	23	14	23	33
Number generating power	290	30	18	11	19	19
Number buying power for redistribution	74	7	5	3	4	14
Municipalities	478	33	25	21	11	22
Number generating power	170	29	15	14	7	16
Number buying power for redistribution	308	4	10	7	4	6
Cities, Towns and Villages served						
No.	1,146	64	56	44	41	76
Population	4,449,221	192,905	304,421	254,776	130,980	247,534
Ratio of total population (per cent)	49.00	30.00	58.00	40.00	33.00	46.00
By commercial organizations—						
No.	619	35	33	19	24	44
Population	1,893,588	22,277	236,776	40,943	54,455	118,627
By municipal systems—						
No.	517	28	26	24	16	32
Population	1,972,831	107,323	67,645	34,746	29,359	128,907
By both—						
No.	10	1	—	1	1	—
Population	582,802	63,325	—	179,087	47,166	—
By Hydraulic Stations—						
No.	844	3	45	23	17	36
Population	3,724,804	1,312	287,500	234,872	31,411	101,167
By Fuel Stations—						
No.	300	60	14	21	23	40
Population	613,946	128,288	16,916	19,904	52,305	146,367
By both Hydro and Fuel—						
No.	2	1	—	—	1	—
Population	110,471	63,305	—	—	47,166	—

Table 4—Capital, 1923

Total Capital	581,472,583	14,113,099	49,242,061	24,034,138	8,591,312	7,885,763
Per cent total for Canada	100.00	2.43	8.47	4.13	1.48	1.35
Generation	330,226,843	8,362,440	27,576,862	8,702,103	5,692,199	5,170,815
Transmission	75,885,243	1,438,477	6,488,108	3,609,728	1,310,591	771,449
Distribution	110,167,412	3,506,853	10,905,808	9,570,308	1,071,837	1,539,601
General	65,193,085	805,329	4,271,288	2,151,998	516,685	403,498
Total Capital in Commercial Stations	307,046,240	6,297,818	46,262,248	7,937,115	4,552,479	4,271,518
Non-generating	22,887,780	75,427	9,080,966	544,873	32,923	1,452,177
Generating	284,158,460	6,222,391	37,181,282	7,392,242	4,519,556	2,819,341
Hydraulic	277,693,999	5,436,238	37,120,492	7,341,406	1,725,927	680,136
Fuel	6,464,461	786,153	60,790	50,836	2,793,629	1,639,205
Total Capital in Municipal Stations	274,426,343	7,815,281	2,979,821	16,097,023	4,038,833	3,614,245
Non-generating	69,498,864	36,000	613,557	2,355,610	104,058	146,266
Generating	204,927,479	7,779,281	2,366,264	13,741,413	3,934,775	3,467,979
Hydraulic	186,477,936	—	1,930,461	13,259,150	3,680,621	2,911,998
Fuel	18,449,543	7,779,281	435,803	482,263	254,154	552,981
Total Capital in Non-Generating Stations	92,386,644	111,427	9,694,523	2,900,483	136,981	2,098,443
Total Capital in Generating Stations	489,085,939	14,001,672	39,547,546	21,133,655	8,454,331	5,787,320
Hydraulic	464,171,935	5,436,238	39,050,953	20,600,556	5,406,548	3,595,134
Fuel	24,914,004	8,565,434	496,593	533,099	3,047,783	2,192,186
Average per H.P. of primary power	240	160	213	260	255	275
Average per H.P. including aux. equip.	226	155	191	230	248	210
Average per K.V.A. of dynamo capacity	312	206	326	318	340	344
Average per K.V.A. including aux. equip.	293	200	287	279	332	255

Tableau 3—Usines génératrices—Municipalités desservies, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	
119	11	102	107	2	Nombre d'usines génératrices.
22-37	2-07	19-17	20-11	-37	Pourcentage dans chaque province.
74	9	82	60	2	Usines commerciales.
68	7	77	—	1	Hydrauliques.
6	2	5	60	1	A combustible.
45	2	20	47	—	Usines municipales.
37	—	15	—	—	Hydrauliques.
8	2	5	47	—	A combustible.
95	5	84	—	1	Avec roues et turbines hydrauliques seulement.
10	2	8	—	1	Avec roues et turbines hydrauliques plus usines auxiliaires.
8	—	4	10	1	Avec machines à vapeur seulement.
—	—	—	4	—	Avec turbines à vapeur seulement.
6	2	6	91	—	Avec moteur à gaz ou à pétrole seulement.
—	—	—	2	—	Avec machines et turbines à vapeur à la fois.
—	2	—	—	—	Avec machines à vapeur, à gaz et à pétrole.
—	—	—	—	—	Avec turbines à vapeur et moteur à gaz et à pétrole
104	9	93	49	1	Avec dynamos à courant alternatif seulement.
15	2	7	55	1	Avec dynamos à courant direct seulement.
—	—	2	—	—	Avec dynamos à courant alternatif et direct.
74	10	93	60	3	Usines commerciales.
63	9	65	60	2	Nombre d'usines génératrices.
11	1	28	—	1	Nombre d'usines achetant de l'électricité pour la revendre.
274	2	41	49	—	Municipalités—
24	2	17	46	—	Nombre d'usines génératrices.
250	—	24	3	—	Nombre d'usines achetant de l'électricité pour la revendre.
407	14	331	105	2	Cités, villes et villages desservis—
1,772,183	22,839	1,361,516	160,292	1,775	Nombre.
59-00	26-00	56-00	20-00	54-00	Population.
108	12	283	59	2	Ratio de population totale.
185,298	18,522	1,190,063	24,852	1,775	Par des usines commerciales.
292	2	48	49	—	Nombre.
1,293,641	4,317	171,453	135,440	—	Population.
7	—	—	—	—	Par usines commerciales et municipales.
293,244	—	—	—	—	Nombre.
390	10	319	—	1	Population.
1,756,886	5,641	1,305,027	—	975	Par usines hydrauliques.
17	4	12	108	1	Nombre.
15,297	17,198	56,489	160,292	800	Population.
—	—	—	—	—	Par usines hydrauliques et à combustible.
—	—	—	—	—	Nombre.
—	—	—	—	—	Population.

Tableau 4—Capitaux, 1923

305,298,863	506,089	162,161,163	8,203,088	1,436,999	Total des capitaux.
52-50	-09	27-89	1-41	-25	Pourcentage dans chaque province.
177,001,098	342,740	91,174,401	5,111,040	1,093,139	Génération.
41,710,081	9,000	20,395,602	19,143	132,663	Transmission.
56,814,296	123,580	24,397,267	2,710,089	27,777	Distribution.
30,273,888	30,769	26,193,893	362,816	183,420	Généralités.
78,923,081	436,526	156,255,679	672,777	1,436,999	Total des capitaux dans les usines commerciales.
2,884,652	5,000	8,097,845	—	213,917	Non-productrices.
76,038,429	431,526	148,157,834	672,777	1,223,082	Productrices.
76,005,252	72,982	148,098,319	—	1,213,237	Hydrauliques.
33,177	358,534	59,515	672,777	9,845	A combustible.
226,375,782	69,563	5,905,484	7,530,311	—	Total des capitaux dans les usines municipales.
65,317,545	—	901,218	24,607	—	Non-productrices.
161,058,234	69,563	5,004,266	7,505,704	—	Productrices.
160,895,198	—	3,797,508	—	—	Hydrauliques.
163,036	69,563	1,206,758	7,505,704	—	A combustible.
68,202,200	5,000	8,999,063	24,607	213,917	Total des capitaux dans les usines non productrices.
237,096,663	501,089	153,162,100	8,178,481	1,223,082	Total des capitaux dans les usines productrices.
236,900,450	72,992	151,895,827	—	1,213,237	Hydrauliques.
196,213	428,097	1,266,273	8,178,481	9,845	A combustible.
278	279	206	164	143	Moyenne par H.P. de la machinerie d'énergie pri- maire.
262	269	198	164	141	Moyenne par H.P. y compris machinerie auxiliaire.
362	333	260	189	238	Moyenne par K.V.A. de la capacité des dynamos.
340	333	250	189	233	Moyenne par K.V.A. y compris machinerie auxiliaire.

Table 5—Revenue, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
GROSS REVENUES						
Gross Revenue from Sale of Electric Energy.	91,141,296	3,067,003	7,972,397	3,647,361	1,471,940	2,499,331
Per cent of total for Canada.....	100.00	3.37	8.75	4.00	1.62	2.7
For lighting purposes.....	33,187,276	1,957,041	3,539,691	2,604,571	833,823	1,570,706
For all other purposes.....	57,954,020	1,109,962	4,432,706	1,042,790	638,117	928,566
Gross Revenue of Commercial Stations.	44,539,654	755,948	7,038,169	1,487,174	1,133,769	1,900,841
Non-generating.....	8,506,602	65,984	2,950,031	143,400	16,362	979,451
Generating.....	35,943,052	689,964	4,088,138	1,343,774	1,117,407	921,388
Hydraulic.....	33,656,548	440,559	4,056,724	1,321,074	345,737	114,111
Fuel.....	2,286,504	249,405	31,414	22,700	771,670	807,266
Gross Revenue of municipal stations.	46,601,642	2,311,055	934,228	2,160,187	338,171	598,491
Non-generating.....	20,240,508	32,041	342,363	290,767	43,713	66,361
Generating.....	26,361,134	2,279,014	591,865	1,869,420	294,458	532,121
Hydraulic.....	20,582,945	—	432,409	1,659,817	215,108	326,721
Fuel.....	5,778,189	2,279,014	159,456	209,603	79,550	205,391
Gross Revenue of non-generating stations	28,837,110	98,025	3,292,394	434,167	60,075	1,045,821
Gross Revenue of generating stations.	62,304,186	2,968,978	4,680,003	3,213,194	1,411,865	1,453,509
Hydraulic.....	54,239,493	440,559	4,489,133	2,980,891	560,845	440,341
Fuel.....	8,064,693	2,528,419	190,870	232,303	851,020	1,012,668
*NET REVENUES						
Net revenue from sale of electric energy.	67,496,893	2,827,322	6,240,022	3,292,859	1,333,247	2,084,781
Net revenue of commercial stations.	37,040,835	736,509	5,432,496	1,252,477	1,055,916	1,517,611
Net revenue of municipal stations.	30,456,058	2,090,813	807,526	2,040,382	277,331	567,171
Net revenue of non-generating stations.	14,815,890	60,046	2,163,357	253,190	37,147	710,111
Net revenue of generating stations.	52,681,003	2,767,276	4,076,665	3,040,669	1,296,100	1,374,671
Average net revenue per H.P. of primary power.	27.85	31.96	27.01	35.68	39.64	72.76
Average net revenue per H.P. in main and auxiliary plants.	26.22	31.11	24.17	31.47	38.41	55.64
Average net revenue per K.V.A. of dynamo capacity.	36.25	41.25	41.35	43.56	52.81	90.91
Average net revenue per K.V.A. in main and auxiliary plants.	34.03	40.02	36.33	38.23	51.59	67.51
Average net revenue per K.W. hour of all stations.	.83	2.32	1.08	1.06	3.58	4.98
of generating stations.	.65	2.27	.71	.98	3.45	3.29

*Gross Revenues less cost of power.

Table 6—Free Service, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Estimated Value.	34,490	2,203	2,451	39	979	379
Per cent of total for Canada.....	100.00	6.39	7.11	.11	2.84	1.10
Commercial Stations.	34,490	2,203	2,451	39	979	379
Non-generating.....	3,172	900	1,540	—	10	—
Generating.....	31,318	1,303	911	39	969	379
Hydraulic.....	27,808	—	36	—	525	—
Fuel.....	3,510	1,303	875	39	444	379

Tableau 5—Recettes, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
RECETTES BRUTES					
46,167,893	124,408	23,399,206	2,672,406	119,349	Recettes brutes provenant de la vente d'électricité.
50.65	.14	25.67	2.93	.13	Pourcentage dans chaque province.
13,048,627	107,348	7,609,201	1,877,572	33,637	Pour l'éclairage
33,119,266	17,060	15,790,005	794,834	80,712	Pour tous autres usages.
9,715,329	97,709	22,020,023	271,344	119,349	Recettes brutes des usines commerciales
1,724,424	738	2,684,107	—	32,098	Non productrices
7,990,905	96,971	19,335,916	271,344	87,251	Productrices
7,975,847	11,137	19,312,306	—	79,047	Hydrauliques
15,058	85,834	23,610	271,344	8,204	A combustible
36,452,564	26,699	1,379,183	2,401,062	—	Recettes brutes des usines municipales
19,062,061	—	382,620	20,575	—	Non productrices
17,390,503	26,699	996,563	2,380,487	—	Productrices
17,304,532	—	644,351	—	—	Hydrauliques
85,971	26,699	352,212	2,380,487	—	A combustible
20,786,485	738	3,066,727	20,575	32,098	Recettes brutes des usines non génératrices
25,381,408	123,670	20,332,479	2,651,831	87,251	Recettes brutes des usines génératrices
25,280,379	11,137	19,956,657	—	79,047	Hydrauliques
101,029	112,533	375,822	2,651,831	8,204	A combustible
RECETTES NETTES*					
29,553,906	124,039	19,275,047	2,660,179	105,491	Recettes nettes provenant de vente d'électricité
8,378,781	97,340	18,192,871	271,344	105,491	Recettes nettes des usines commerciales
21,175,125	26,699	1,082,176	2,388,835	—	Recettes nettes des usines municipales
9,935,092	369	1,630,991	8,348	18,240	Recettes nettes des usines non génératrices
19,618,814	123,670	17,644,056	2,651,831	87,251	Recettes nettes des usines génératrices
26.87	68.30	24.46	53.24	10.49	Moy. des recettes nette, par h.p. de machinerie primaire
25.36	65.91	23.50	53.24	10.32	Moy. des recettes nette par h.p. des usines principales et auxiliaires
35.00	81.60	30.92	61.20	17.49	Moy. des recettes nette par k.v.a. de la capac. des dynamos
32.92	81.60	29.68	61.20	17.07	Moy. des recettes nette k.v.a. des usines principales et auxiliaires
					Moyenne des recettes nettes par k.w. heure
.72	8.67	.68	4.43	.93	De toutes les usines
.48	8.64	.63	4.41	.77	Des usines génératrices

* Recettes Brutes moins coût de l'électricité achetée.

Tableau 6—Service gratuit, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
17,912	—	10,107	420	—	Valeur estimative totale
51.93	—	29.30	1.22	—	Pourcentage dans chaque province
17,912	—	10,107	420	—	Usines commerciales
12	—	710	—	—	Non productrices
17,900	—	9,397	420	—	Productrices
17,900	—	9,347	—	—	Hydrauliques
—	—	50	420	—	A combustibles

Table 7—Expenses, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Expenses	54,968,077	1,828,845	4,025,297	1,950,580	791,249	1,687,880
Per cent of total for Canada.....	100.00	3.33	7.32	3.55	1.44	3.07
Salaries and wages.....	14,784,038	765,765	1,322,680	899,175	266,472	533,506
Fuel.....	2,638,888	463,900	199,152	192,736	209,647	335,238
Miscellaneous.....	13,900,748	359,499	771,090	504,167	176,437	404,243
Cost of power.....	23,644,403	239,681	1,732,375	354,502	138,693	414,552
Total for Commercial Stations	24,357,223	419,816	3,570,533	889,360	641,982	1,362,881
Salaries and wages.....	6,500,590	210,919	1,111,735	356,497	216,192	400,886
Fuel.....	1,319,985	95,337	146,552	122,146	185,412	269,682
Miscellaneous.....	9,037,829	94,121	706,573	176,020	162,525	309,081
Cost of power.....	7,498,819	19,439	1,605,673	234,697	77,853	383,230
Non-generating stations.....	5,927,881	33,432	1,843,695	90,164	15,642	589,238
Generating stations.....	18,429,342	386,384	1,726,838	799,196	626,340	773,643
Hydraulic stations.....	16,658,411	161,406	1,703,996	777,926	153,838	70,219
Fuel stations.....	1,770,931	224,978	22,842	21,270	472,502	703,424
Total for Municipal Stations	30,610,854	1,409,029	454,764	1,061,220	149,267	324,705
Salaries and wages.....	8,283,448	554,846	210,945	542,678	50,280	132,618
Fuel.....	1,318,903	368,563	52,600	70,590	24,235	65,603
Miscellaneous.....	4,862,919	265,378	64,517	328,147	13,912	95,162
Cost of power.....	16,145,584	220,242	126,702	119,805	60,840	31,322
Non-generating stations.....	16,567,457	27,644	181,717	237,225	26,973	51,694
Generating stations.....	14,043,397	1,381,385	273,047	823,995	122,294	273,011
Hydraulic stations.....	10,335,601	—	170,764	659,719	73,306	102,432
Fuel stations.....	3,707,796	1,381,385	102,283	164,276	48,988	170,579
Total Expenses for Non-Generating Stations	22,495,338	61,076	2,035,412	327,389	42,615	640,932
Total Expenses for Generating Stations	32,472,739	1,767,769	1,999,885	1,623,191	748,634	1,046,948
Hydraulic stations.....	26,994,012	161,406	1,874,760	1,437,645	227,144	172,651
Fuel stations.....	5,478,727	1,606,363	125,125	185,546	521,490	874,003

Table 8—Employees, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Number of Persons Employed	11,094	518	835	618	247	465
Per cent of total for Canada.....	100.00	4.67	7.53	5.57	2.23	4.19
Officers, superintendents, etc.....	974	40	57	40	52	56
Clerks, other salaried employees.....	3,924	144	301	271	49	113
Employees on wages.....	6,196	334	477	307	146	296
Total Employees in Commercial Stations	5,049	160	682	244	196	342
Non-generating.....	936	22	373	6	8	128
Generating.....	4,113	138	309	238	188	214
Hydraulic.....	3,613	71	296	229	51	44
Fuel.....	500	67	13	9	137	170
Total Employees in Municipal Stations	6,045	358	153	374	51	123
Non-generating.....	3,613	5	34	45	10	11
Generating.....	2,432	353	119	329	41	112
Hydraulic.....	1,479	—	84	284	26	64
Fuel.....	953	353	35	45	15	48
Total Employees in Non-Generating Stations	4,549	27	407	51	18	139
Total Employees in Generating Stations	6,545	491	428	567	229	326
Hydraulic.....	5,092	71	380	513	77	108
Fuel.....	1,453	420	48	54	152	218

Tableau 7—Dépenses, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	—
29,463,767 53.60	97,983 .18	13,337,731 24.26	1,715,130 3.12	69,909 .13	Total des dépenses
					Pourcentage dans chaque province
7,365,368	29,723	2,965,254	604,455	31,640	Traitements, appointements et salaires
383,478	36,515	95,171	718,503	4,501	Combustible
5,100,934	31,376	6,153,147	379,945	19,910	Dépenses diverses
16,613,987	369	4,124,159	12,227	13,858	Achat d'énergie électrique
4,676,874	78,573	12,440,655	207,240	69,909	Total pour les usines commerciales
1,399,076	23,920	2,682,609	67,114	31,640	Traitements, appointements et salaires
332,853	27,264	32,022	104,216	4,501	Combustible
1,608,397	27,020	5,898,272	35,910	19,910	Dépenses diverses
1,336,548	369	3,827,152	—	13,858	Achat d'énergie électrique
1,327,801	406	2,004,666	—	23,437	Usines non productrices
3,349,073	78,167	10,435,989	207,240	46,472	Usines productrices
3,337,504	4,952	10,414,138	—	34,432	Usines hydrauliques
11,569	73,215	21,851	207,240	12,040	Usines à combustible
24,786,893	19,410	897,676	1,507,890	—	Total pour les usines municipales
5,966,292	5,803	282,645	537,341	—	Traitements, appointements et salaires
50,625	9,251	63,149	614,287	—	Combustible
3,492,537	4,356	254,875	344,035	—	Dépenses diverses
15,277,439	—	297,007	12,227	—	Achat d'énergie électrique
15,780,190	—	245,941	16,073	—	Usines non productrices
9,006,703	19,410	651,735	1,491,817	—	Usines productrices
8,938,991	—	390,389	—	—	Usines hydrauliques
67,712	19,410	261,346	1,491,817	—	Usines à combustible
17,107,991	406	2,250,007	16,073	23,437	Total des dépenses pour les usines non productrices
12,355,776	97,577	11,087,724	1,699,057	46,472	Total des dépenses pour les usines productrices
12,276,495	4,952	10,804,527	—	34,432	Usines hydrauliques
79,281	92,625	283,197	1,699,057	12,040	Usines à combustible

Tableau 8—Personnel, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	—
5,435 48.99	32 .29	2,495 22.49	434 3.91	15 .13	Total du personnel occupé
					Pourcentage dans chaque province
457	8	210	49	5	Administrateurs, directeurs, etc.
2,061	4	879	102	—	Commis et tous employés des bureaux
2,917	20	1,406	283	10	Ouvriers et journaliers
1,057	25	2,256	72	15	Personnel des usines commerciales
91	—	306	—	2	Non productrices
966	25	1,950	72	13	Productrices
963	8	1,941	—	10	Hydrauliques
3	17	9	72	3	A combustible
4,378	7	239	362	—	Personnel des usines municipales
3,448	—	54	6	—	Non productrices
930	7	185	356	—	Productrices
906	—	115	—	—	Hydrauliques
24	7	70	356	—	A combustible
3,539	—	360	6	2	Total du personnel des usines non productrices
1,896	32	2,135	428	13	Total du personnel des usines productrices
1,869	8	2,056	—	10	Hydrauliques
27	24	79	428	3	A combustible

Table 9—Number of Customers, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Number of Customers.....	1,112,547	54,167	105,172	75,751	23,250	38,371
Per cent of total for Canada.....	100.00	4.87	9.45	6.81	2.09	3.41
Domestic light.....	920,223	44,610	85,713	60,811	17,809	29,792
Commercial light.....	159,929	7,794	16,542	12,657	4,799	7,377
Power.....	32,395	1,763	2,917	2,283	642	1,211
Total Number of Customers of Commer- cial Stations.....	496,591	8,504	85,359	26,957	18,918	28,978
Non-generating.....	132,954	1,336	62,831	4,744	478	13,984
Generating.....	363,637	7,168	22,528	22,213	18,440	14,994
Hydraulic.....	321,834	2,183	21,919	21,932	3,793	2,036
Fuel.....	41,803	4,985	609	281	14,647	12,958
Total Number of Customers of Municipal Stations.....	615,956	45,663	19,813	48,794	4,332	9,401
Non-generating.....	431,665	899	9,447	3,675	1,064	1,707
Generating.....	184,291	44,764	10,366	45,119	3,268	7,694
Hydraulic.....	78,288	—	6,646	41,538	1,505	2,861
Fuel.....	106,003	44,764	3,720	3,581	1,763	4,833
Total Number of Customers of Non- Generating Stations.....	564,619	2,235	72,278	8,419	1,542	15,691
Total Number of Customers of Generat- ing Stations.....	547,928	51,932	32,894	67,332	21,708	23,688
Hydraulic.....	400,122	2,183	28,565	63,470	5,298	4,897
Fuel.....	147,806	49,749	4,329	3,862	16,410	17,791
Average Number of Domestic Light Customers per 100 of Population.....	10.13	7.18	15.76	9.54	4.50	5.60

Table 10—Pole Line Mileage, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Pole Line Mileage.....	23,560	994	3,128	1,485	844	909
Per cent of total for Canada.....	100.00	4.22	13.28	6.30	3.58	3.86
For transmission.....	8,406	179	1,006	420	277	186
For distribution.....	15,154	815	2,122	1,065	567	723
Total Pole Line Mileage—Commercial Sta- tions.....	11,146	301	2,611	703	507	652
Non-generating.....	3,105	30	1,319	141	30	226
Generating.....	8,041	271	1,292	562	477	426
Hydraulic.....	7,036	149	1,274	547	130	100
Fuel.....	1,005	122	18	15	347	326
Total Pole Line Mileage—Municipal Sta- tions.....	12,414	693	517	782	337	257
Non-generating.....	6,050	19	199	216	39	44
Generating.....	6,364	674	318	566	298	213
Hydraulic.....	4,760	—	206	495	261	112
Fuel.....	1,604	674	112	71	37	101
Total Pole Line Mileage—Non-Generat- ing Stations.....	9,155	49	1,518	357	69	270
Total Pole Line Mileage—Generating Sta- tions.....	11,405	945	1,610	1,128	775	639
Hydraulic.....	11,796	149	1,480	1,042	391	212
Fuel.....	2,609	796	130	86	384	427

Tableau 9—Abonnés, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	
473,843 42.59	3,617 -33	296,823 26.68	41,069 8.69	476 -04	Nombre d'abonnés Pourcentage du total pour le Canada
387,811 72,277 13,755	3,051 508 58	258,954 30,200 8,152	31,805 7,667 1,597	350 113 13	Eclairage, particuliers Eclairage, commerçants Force motrice
60,381	3,022	258,954	5,042	476	Nombre total des abonnés des usines commerciales
13,359 47,022 46,832 190	32 2,990 654 2,336	35,847 223,107 222,482 625	— 5,042 — 5,042	343 133 3 130	Non productrices Productrices Hydrauliques A combustible
413,462	595	37,869	36,027	—	Nombre total des abonnés des usines municipales
401,863 11,599 10,008 1,591	— 595 — 595	12,554 25,315 15,730 9,585	456 35,571 — 35,571	— — — —	Non productrices Productrices Hydrauliques A combustible
415,222	32	48,401	456	343	Nombre total des abonnés des usines non produc- trices
58,621	3,585	248,422	40,613	133	Nombre total des abonnés des usines productrices
56,840 1,781	654 2,931	238,212 10,210	— 40,613	3 130	Hydrauliques A combustible
12.85	3.47	10.62	3.99	9.72	Moyenne des consommateurs d'éclairage électrique par 100 habitants

Tableau 10—Longueur (en milles) des lignes sur poteaux, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	
10,674 45.31 4,320 6,354	74 -31 7 67	4,721 20.04 1,938 2,783	662 2.81 14 648	69 -29 59 10	Longueur totale, en milles, des lignes sur poteaux Pourcentage dans chaque province Pour la transmission Pour la distribution
1,909	61	4,196	137	69	Pour le service des usines commerciales
264 1,645 1,638 7	9 52 36 16	1,080 3,116 3,101 15	— 137 — 137	6 63 61 2	Non productrices Productrices Hydrauliques A combustible
8,765	13	525	525	—	Pour le service des usines municipales
5,305 3,460 3,431 29	— 13 — 13	215 310 255 55	13 512 — 512	— — — —	Non productrices Productrices Hydrauliques A combustible
5,569	9	1,295	13	6	Pour le service des usines non productrices
5,105	65	3,426	649	63	Pour le service des usines productrices
5,069 36	36 29	3,356 70	— 649	61 2	Hydrauliques A combustible

CENSUS OF INDUSTRY

Table 11—Equipment, 1923
TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

		Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power.....	H.P.	2,573,417	90,803	258,170	104,641	34,708	37,477
Per cent of total for Canada.....		100-00	3-53	10-03	4-07	1-35	1-41
Water-wheels and turbines.....	No.	641	14	56	19	21	31
Total capacity.....	H.P.	2,282,547	32,560	228,286	89,625	22,120	16,281
Steam engines.....	No.	203	52	16	20	19	3
Total capacity.....	H.P.	56,802	14,288	2,484	5,831	6,100	9,170
Steam turbines.....	No.	69	14	9	2	5	10
Total capacity.....	H.P.	216,877	41,650	25,500	8,000	5,075	11,541
Gas and oil engines.....	No.	269	51	12	18	10	10
Total capacity.....	H.P.	17,191	2,305	1,900	1,185	1,413	481
Total Dynamo Capacity.....	K.V.A.	1,983,677	70,641	171,781	86,127	23,815	30,881
Per cent of total for Canada.....		100-00	3-56	8-66	4-34	1-30	1-51
Dynamos, A.C.....	No.	928	81	90	44	45	6
Capacity.....	K.V.A.	1,972,548	67,638	171,441	85,841	24,984	29,071
Dynamos, D.C.....	No.	213	45	5	16	8	13
Capacity.....	K.W.	11,129	3,010	340	286	861	1,804
Commercial Stations							
Total Primary Power.....	H.P.	1,566,775	38,525	242,575	33,972	21,333	21,351
Water-wheels and turbines.....	No.	470	14	45	7	15	10
Total capacity.....	H.P.	1,419,835	32,560	218,191	22,400	10,210	2,511
Steam engines.....	No.	102	17	8	8	16	21
Total capacity.....	H.P.	29,399	4,280	1,094	3,501	5,685	7,851
Steam turbines.....	No.	36	7	2	2	5	3
Total capacity.....	H.P.	112,619	2,000	23,500	8,000	5,075	10,801
Gas and oil engines.....	No.	153	37	3	5	5	3
Total capacity.....	H.P.	4,919	685	90	71	363	191
Total Dynamo Capacity.....	K.V.A.	1,237,180	27,825	161,291	26,315	15,421	17,701
Dynamos A.C.....	No.	555	33	59	13	30	31
Capacity.....	K.V.A.	1,230,549	27,635	160,861	26,175	14,560	15,901
Dynamos D.C.....	No.	168	34	5	10	8	13
Capacity.....	K.W.	6,631	190	340	140	861	1,801
Municipal Stations							
Total Primary Power.....	H.P.	1,006,642	51,278	15,295	70,669	13,375	16,111
Water-wheels and turbines.....	No.	171	—	11	12	6	14
Total capacity.....	H.P.	862,709	—	10,095	67,225	11,910	13,774
Steam engines.....	No.	101	35	8	12	3	7
Total capacity.....	H.P.	27,403	10,008	1,390	2,330	415	1,328
Steam turbines.....	No.	33	12	2	—	—	3
Total capacity.....	H.P.	104,258	39,650	2,000	—	—	743
Gas and oil engines.....	No.	116	14	9	13	5	3
Total capacity.....	H.P.	12,272	1,620	1,810	1,114	1,050	270
Total Dynamo Capacity.....	K.V.A.	746,497	42,823	10,580	59,812	10,424	13,175
Dynamos A.C.....	No.	373	48	31	31	15	28
Capacity.....	K.V.A.	741,999	40,003	10,580	59,666	10,424	13,175
Dynamos D.C.....	No.	45	11	—	6	—	—
Capacity.....	K.W.	4,498	2,820	—	146	—	—

Table 12—Auxiliary Plant Equipment, 1923

Total Primary Power.....	H.P.	149,572	2,350	27,140	12,346	1,075	8,820
Per cent of total for Canada.....		100-00	1-57	18-14	8-25	0-72	5-90
Steam reciprocating engines.....	No.	44	2	5	5	4	4
Total capacity.....	H.P.	19,686	1,250	1,290	4,106	1,075	2,040
Steam turbines.....	No.	31	1	9	2	—	2
Total capacity.....	H.P.	129,110	1,000	25,500	8,000	—	6,700
Gas and oil engines.....	No.	7	1	2	2	—	1
Total capacity.....	H.P.	776	100	350	240	—	80
Total Secondary Power.....	K.V.A.	121,832	2,100	20,865	10,525	597	7,947
Per cent of total for Canada.....		100-00	1-72	17-13	8-64	0-49	6-52
Dynamos A.C.....	No.	68	4	17	9	3	7
Total capacity.....	K.V.A.	120,152	2,100	20,865	10,525	597	7,947
Dynamos D.C.....	No.	5	—	—	—	—	—
Total capacity.....	K.W.	1,680	—	—	—	—	—
Commercial Stations							
Total Primary Power.....	H.P.	115,277	2,350	23,950	11,206	700	8,820
Steam reciprocating engines.....	No.	26	2	1	3	2	4
Total capacity.....	H.P.	12,731	1,250	450	3,206	700	2,040
Steam turbines.....	No.	24	1	7	2	—	2
Total capacity.....	H.P.	102,380	1,000	23,500	8,000	—	6,700
Gas and oil engines.....	No.	3	—	—	—	—	1
Total capacity.....	H.P.	186	100	—	—	—	80
Total Secondary Power.....	K.V.A.	96,235	2,100	18,265	9,750	375	7,947
Dynamos A.C.....	No.	43	4	8	5	1	7
Total capacity.....	K.V.A.	95,805	2,100	18,265	9,750	375	7,947
Dynamos D.C.....	No.	3	—	—	—	—	—
Total capacity.....	K.W.	430	—	—	—	—	—
Municipal Stations							
Total Primary Power.....	H.P.	34,205	—	3,190	1,140	375	—
Steam reciprocating engines.....	No.	18	—	—	2	2	—
Total capacity.....	H.P.	6,955	—	840	900	375	—
Steam turbines.....	No.	7	—	2	—	—	—
Total capacity.....	H.P.	26,750	—	2,000	—	—	—
Gas and oil engines.....	No.	4	—	2	2	—	—
Total capacity.....	H.P.	590	—	350	240	—	—
Total Secondary Power.....	K.V.A.	25,597	—	2,600	775	222	—
Dynamos A.C.....	No.	25	—	9	4	2	—
Total capacity.....	K.V.A.	24,347	—	2,600	775	222	—
Dynamos D.C.....	No.	2	—	—	—	—	—
Total capacity.....	K.W.	1,250	—	—	—	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 11—Machinerie, 1923

TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Ontario	Prince Edward Is. Ile du Prince Edouard	Quebec	Saskatchewan	Yukon	
1,165,329	1,882	820,225	49,961	10,220	Total, force motrice primaire..... H.P.
45-28	0-07	31-87	1-94	0-40	Pourcentage dans chaque province.
282	8	215	—	2	Turbines et roues hydrauliques..... Nomb.
1,098,302	279	785,086	—	10,000	Capacité totale..... H.P.
22	3	19	19	1	Machines à vapeur..... Nomb.
6,255	560	7,265	4,781	60	Capacité totale..... H.P.
9	—	7	12	1	Turbines à vapeur..... Nomb.
60,250	—	27,500	37,197	160	Capacité totale..... H.P.
10	8	10	144	—	Moteurs à gaz et à pétrole..... Nomb.
522	1,043	377	7,986	—	Capacité totale..... H.P.
897,598	1,520	649,629	43,469	6,180	Machinerie développant la force motrice secondaire
45-25	0-08	32-75	2-19	0-31	Pourcentage dans chaque province
288	14	217	83	3	Dynamos, C.A..... Nomb.
895,564	1,509	648,035	42,311	6,150	Capacité totale..... K.V.A.
20	2	14	89	2	Dynamos, C.D..... Nomb.
2,034	11	1,594	1,158	30	Capacité totale..... K.W.
					Usines commerciales
392,164	1,532	800,553	3,246	10,220	Total, force motrice primaire..... H.P.
178	8	191	—	2	Turbines et roues hydrauliques..... Nomb.
355,222	279	768,461	—	10,000	Capacité totale..... H.P.
8	2	11	6	1	Machines à vapeur..... Nomb.
1,360	410	4,425	734	60	Capacité totale..... H.P.
4	—	7	1	1	Turbines à vapeur..... Nomb.
35,500	—	27,500	84	160	Capacité totale..... H.P.
3	6	6	85	—	Moteurs à gaz et à pétrole..... Nomb.
82	843	167	2,428	—	Capacité totale..... H.P.
343,959	1,180	635,255	2,109	6,180	Machinerie développant la force motrice secondaire
167	11	183	21	2	Dynamos, C.A..... Nomb.
343,197	1,169	633,703	1,199	6,150	Capacité totale..... K.V.A.
14	2	12	69	2	Dynamos, C.D..... Nomb.
762	11	1,582	910	30	Capacité totale..... K.W.
					Usines municipales
773,163	350	19,675	46,718	—	Total force motrice primaire..... H.P.
104	—	24	—	—	Turbines et roues hydrauliques..... Nomb.
743,080	—	16,625	—	—	Capacité totale..... H.P.
14	1	8	13	—	Machines à vapeur..... Nomb.
4,895	150	2,840	4,047	—	Capacité totale..... H.P.
5	—	—	11	—	Turbines à vapeur..... Nomb.
24,750	—	—	37,113	—	Capacité totale..... H.P.
7	2	4	59	—	Moteurs à gaz et à pétrole..... Nomb.
440	200	210	5,558	—	Capacité totale..... H.P.
553,639	340	14,344	41,360	—	Machinerie développant la force motrice secondaire
121	3	34	62	—	Dynamos, C.A..... Nomb.
552,367	340	14,332	41,112	—	Capacité totale..... K.V.A.
6	—	2	20	—	Dynamos, C.D..... Nomb.
1,272	—	12	248	—	Capacité totale..... K.W.

Tableau 12—Machines des usines auxiliaires, 1923

65,340	66	32,275	—	160	Total, force motrice primaire..... H.P.
43-69	0-04	21-58	—	0-11	Pourcentage dans chaque province
13	1	10	—	—	Machines à vapeur..... Nomb.
5,090	60	4,775	—	—	Capacité totale..... H.P.
9	—	7	—	1	Turbines à vapeur..... Nomb.
60,250	—	27,500	—	160	Capacité totale..... H.P.
—	1	—	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	6	—	—	—	Capacité totale..... H.P.
53,328	—	26,320	—	—	Machinerie développant la force motrice secondaire
43-77	—	21-60	—	0-13	Pourcentage dans chaque province
16	—	11	—	1	Dynamos, C.A..... Nomb.
51,928	—	26,040	—	150	Capacité totale..... K.V.A.
3	—	2	—	—	Dynamos, C.D..... Nomb.
1,400	—	280	—	—	Capacité totale..... K.W.
					Usines commerciales
36,390	66	31,635	—	160	Total force motrice primaire..... H.P.
5	1	8	—	—	Machines à vapeur..... Nomb.
890	60	4,135	—	—	Capacité totale..... H.P.
4	—	7	—	1	Turbines à vapeur..... Nomb.
35,500	—	27,500	—	160	Capacité totale..... H.P.
—	1	—	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	6	—	—	—	Capacité totale..... H.P.
31,328	—	26,320	—	—	Machinerie développant la force motrice secondaire
6	—	11	—	1	Dynamos, C.A..... Nomb.
31,178	—	26,040	—	150	Capacité totale..... K.V.A.
1	—	2	—	—	Dynamos, C.D..... Nomb.
150	—	280	—	—	Capacité totale..... K.W.
					Usines municipales
28,950	—	640	—	—	Total force motrice primaire..... H.P.
8	—	2	—	—	Machines à vapeur..... Nomb.
4,200	—	640	—	—	Capacité totale..... H.P.
5	—	—	—	—	Turbines à vapeur..... Nomb.
24,750	—	—	—	—	Capacité totale..... H.P.
—	—	—	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	—	—	—	—	Capacité totale..... H.P.
22,000	—	—	—	—	Machinerie développant la force motrice secondaire
10	—	—	—	—	Dynamos, C.A..... Nomb.
20,750	—	—	—	—	Capacité totale..... K.V.A.
2	—	—	—	—	Dynamos, C.D..... Nomb.
1,250	—	—	—	—	Capacité totale..... K.W.

Table 13—Main Plant Equipment, 1923

	Canada	Alberta	British Columbia — Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
Total Primary Power..... H.P.....						
Per cent of total for Canada.....	100-00	3-65	9-53	3-81	1-39	1-1
Water-wheel and turbines..... No.....	641	14	56	19	21	2
Total capacity..... H.P.....	2,282,547	32,560	228,286	89,625	22,120	16,28
Steam reciprocating engines..... No.....	159	50	11	15	15	2
Total capacity..... H.P.....	37,116	13,038	1,194	1,725	5,025	7,13
Steam turbines..... No.....	38	13	—	—	5	—
Total capacity..... H.P.....	87,767	40,650	—	—	5,075	4,84
Gas and oil engines..... No.....	262	50	10	16	10	—
Total capacity..... H.P.....	16,415	2,205	1,550	945	1,413	39
Total Dynamo Capacity..... K.V.A.....						
Per cent of total for Canada.....	100-00	3-68	8-10	4-06	1-36	1-2
Dynamos, A. C..... No.....	860	77	73	35	42	5
Total capacity..... K.V.A.....	1,852,396	65,538	150,576	75,316	24,387	21,12
Dynamos, D. C..... No.....	208	45	5	16	8	1
Total capacity..... K.W.....	9,449	3,010	340	286	861	1,80
Commercial Stations						
Total Primary Power..... H.P.....						
Per cent of total for Canada.....	100-00	2-56	15-08	1-57	1-42	0-8
Water-wheels and turbines..... No.....	470	14	45	7	15	1
Total capacity..... H.P.....	1,419,838	32,560	218,191	22,400	10,210	2,51
Steam reciprocating engines..... No.....	76	15	7	5	14	2
Total capacity..... H.P.....	16,668	3,030	644	295	4,985	5,81
Steam turbines..... No.....	12	1	—	—	5	—
Total capacity..... H.P.....	10,259	1,000	—	—	5,075	4,10
Gas and oil engines..... No.....	150	36	3	5	5	—
Total capacity..... H.P.....	4,733	585	90	71	363	11
Total Dynamo Capacity..... K.V.A.....						
Per cent of total for Canada.....	100-00	2-26	12-53	1-45	1-32	0-8
Dynamos, A. C..... No.....	512	29	51	8	29	2
Total capacity..... K.V.A.....	1,134,744	25,535	142,596	16,425	14,185	7,95
Dynamos, D. C..... No.....	165	34	5	10	8	1
Total capacity..... K.W.....	6,201	190	340	140	861	1,80
Municipal Stations						
Total Primary Power..... H.P.....						
Per cent of total for Canada.....	100-00	5-27	1-24	7-15	1-34	1-6
Water-wheels and turbines..... No.....	171	—	11	12	6	1
Total capacity..... H.P.....	862,709	—	10,095	67,225	11,910	13,77
Steam reciprocating engines..... No.....	83	35	4	10	1	—
Total capacity..... H.P.....	20,448	10,008	550	1,430	40	1,32
Steam turbines..... No.....	26	12	—	—	—	—
Total capacity..... H.P.....	77,508	39,650	—	—	—	74
Gas and oil engines..... No.....	112	14	7	11	5	—
Total capacity..... H.P.....	11,682	1,620	1,460	874	1,050	27
Total Dynamo Capacity..... K.V.A.....						
Per cent of total for Canada.....	100-00	5-94	1-10	8-19	1-41	1-8
Dynamos, A. C..... No.....	348	48	22	27	13	2
Total capacity..... K.V.A.....	717,652	40,003	7,980	58,891	10,202	13,17
Dynamos, D. C..... No.....	43	11	—	6	—	—
Total capacity..... K.W.....	3,248	2,820	—	146	—	—
Hydraulic Stations						
Total Dynamo Capacity..... K.V.A.....						
Per cent of total for Canada.....	100-00	1-28	8-51	4-22	0-98	0-8
Dynamos, A. C..... No.....	593	10	56	19	18	2
Total capacity..... K.V.A.....	1,744,802	22,350	148,542	73,662	17,138	13,91
Dynamos, D. C..... No.....	20	—	2	—	2	—
Total capacity..... K.W.....	1,871	—	70	—	60	—
Fuel Stations						
Total Dynamo Capacity..... K.V.A.....						
Per cent of total for Canada.....	100-00	40-11	2-00	1-69	6-99	7-8
Dynamos, A. C..... No.....	267	67	17	16	24	3
Total capacity..... K.V.A.....	107,594	43,188	2,034	1,654	7,249	7,21
Dynamos, D. C..... No.....	188	45	3	16	6	1
Total capacity..... K.W.....	7,578	3,010	270	286	801	1,80

Tableau 13—Machines des usines principales, 1923

Ontario	Prince Edward Is. Hed du Prince Edouard	Quebec	Saskatchewan	Yukon	
1,099,989	1,816	787,953	49,964	10,060	Machinerie fournissant la force motrice primaire. H.P.
45-38	0-08	32-51	2-06	0-41	Pourcentage dans chaque province.
282	8	215	—	2	Turbines et roues hydrauliques..... Nomb.
1,098,302	279	785,086	—	10,000	Capacité totale..... H.P.
9	2	9	19	1	Machines à vapeur..... Nomb.
1,165	500	2,490	4,781	60	Capacité totale..... H.P.
—	—	—	12	—	Turbines à vapeur..... Nomb.
—	—	—	37,197	—	Capacité totale..... H.P.
10	7	10	144	—	Moteurs à gaz et à pétrole..... Nomb.
522	1,037	377	7,986	—	Capacité totale..... H.P.
814,270	1,520	623,309	43,469	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
45-35	0-08	33-49	2-33	0-32	Pourcentage dans chaque province.
272	14	206	83	2	Dynamos, C.A..... Nomb.
543,636	1,509	621,995	42,311	6,000	Capacité totale..... K.V.A.
17	2	12	89	2	Dynamos, C.D..... Nomb.
634	11	1,314	1,158	30	Capacité totale..... K.W.
Usines commerciales					
355,774	1,466	768,918	3,246	10,060	Machinerie fournissant la force motrice primaire. H.P.
24-51	0-10	52-98	0-23	0-69	Pourcentage dans chaque province.
178	8	191	—	2	Turbines et roues hydrauliques..... Nomb.
355,222	279	768,461	—	10,000	Capacité totale..... H.P.
3	1	3	6	1	Machines à vapeur..... Nomb.
470	350	290	734	60	Capacité totale..... H.P.
—	—	—	1	—	Turbines à vapeur..... Nomb.
—	—	—	84	—	Capacité totale..... H.P.
3	5	6	85	—	Moteurs à gaz et à pétrole..... Nomb.
82	837	167	2,428	—	Capacité totale..... H.P.
312,631	1,180	608,965	2,109	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
27-40	0-10	53-37	0-18	0-53	Pourcentage dans chaque province.
161	11	172	21	2	Dynamos, C.A..... Nomb.
312,019	1,169	607,663	1,199	6,000	Capacité totale..... K.V.A.
13	2	10	69	2	Dynamos, C.D..... Nomb.
612	11	1,302	910	30	Capacité totale..... K.W.
Usines municipales					
744,215	350	19,035	46,718	—	Machinerie fournissant la force motrice primaire. H.P.
76-54	0-03	1-96	4-81	—	Pourcentage dans chaque province.
104	—	24	—	—	Turbines et roues hydrauliques..... Nomb.
743,080	—	16,625	—	—	Capacité totale..... H.P.
6	1	6	13	—	Machines à vapeur..... Nomb.
695	150	2,200	4,047	—	Capacité totale..... H.P.
—	—	—	11	—	Turbines à vapeur..... Nomb.
—	—	—	37,113	—	Capacité totale..... H.P.
7	2	4	59	—	Moteurs à gaz et à pétrole..... Nomb.
440	200	210	5,558	—	Capacité totale..... H.P.
531,639	340	14,344	41,360	—	Capacité totale de l'ensemble des dynamos... K.V.A.
73-75	0-05	1-99	5-74	—	Pourcentage dans chaque province.
111	3	34	62	—	Dynamos, C.A..... Nomb.
531,617	340	14,332	41,112	—	Capacité totale..... K.V.A.
4	—	2	20	—	Dynamos, C.D..... Nomb.
22	—	12	248	—	Capacité totale..... K.W.
Les usines hydrauliques					
843,264	332	621,345	—	6,000	Capacité totale de l'ensemble des dynamos... K.V.A.
48-28	0-02	35-57	—	0-34	Pourcentage dans chaque province.
262	6	194	—	2	Dynamos, C.A..... Nomb.
842,816	324	620,060	—	6,000	Capacité totale..... K.V.A.
8	1	7	—	—	Dynamos, C.D..... Nomb.
443	8	1,285	—	—	Capacité totale..... K.W.
Les usines à combustible					
1,006	1,188	1,964	43,469	30	Capacité totale de l'ensemble des dynamos... K.V.A.
0-87	1-03	1-71	37-74	0-03	Pourcentage dans chaque province.
10	8	12	83	—	Dynamos, C.A..... Nomb.
820	1,185	1,935	42,311	—	Capacité totale..... K.V.A.
9	1	5	89	2	Dynamos, C.D..... Nomb.
186	3	29	1,158	30	Capacité totale..... K.W.

Table 14—Main Plant Equipment Classified, 1923

		Canada	Alberta	British Columbia — Colombie Britannique	Manitoba
Primary Power—Force motrice primaire					
		2,423,845	88,453	231,030	92,211
Water-wheels and turbines—Roues hydrauliques et turbines—					
	Total.....No.	641	14	56	1
	Total H.P.	2,282,547	32,560	228,286	89,021
Under—Au-dessous de 500 H.P.	No.	220	8	13	1
	Total H.P.	38,131	960	2,350	11
500-2,000 H.P.	No.	194	—	10	—
	Total H.P.	210,531	—	21,330	1,000
2,000-5,000 H.P.	No.	83	2	7	—
	Total H.P.	241,185	8,000	21,600	6,400
5,000-10,000 H.P.	No.	57	1	6	—
	Total H.P.	360,200	23,606	46,000	82,100
10,000-15,000 H.P.	No.	54	—	11	—
	Total H.P.	627,000	—	137,600	—
15,000-55,000 H.P.	No.	83	—	—	—
	Total H.P.	799,500	—	—	—
Steam Engines and Turbines—Machines et turbines à vapeur—					
	Total.....No.	197	63	11	—
	Total H.P.	124,883	53,688	1,194	1,721
Steam Reciprocating Engines—Machines à vapeur—					
	Total.....No.	150	50	11	—
	Total H.P.	37,116	13,038	1,194	1,721
Under—Au-dessous de 500 H.P.	No.	143	42	11	—
	Total H.P.	23,906	6,468	1,194	1,721
500 up.	No.	16	8	—	—
	Total H.P.	13,120	6,570	—	—
Steam Turbines—Turbines à vapeur—					
	Total.....No.	38	13	—	—
	Total H.P.	57,767	40,650	—	—
Under—Au-dessous de 500 H.P.	No.	6	—	—	—
	Total H.P.	1,100	—	—	—
500-2,000 H.P.	No.	12	2	—	—
	Total H.P.	10,898	3,600	—	—
2,000-5,000 H.P.	No.	15	7	—	—
	Total H.P.	43,160	18,450	—	—
5,000-10,000 H.P.	No.	5	3	—	—
	Total H.P.	32,600	19,200	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole—					
	Total.....No.	262	50	10	—
	Total H.P.	16,415	2,203	1,550	94
Secondary Power—Force motrice secondaire					
Dynamos A.C. and D.C.—C.A. et C.D.	Total.....No.	1,068	122	78	5
	Total K.V.A.	1,861,845	68,548	150,916	75,600
Dynamos A.C.—C.A.	Total.....No.	860	77	73	3
	Total K.V.A.	1,852,396	65,538	150,576	75,300
Under—Au-dessous de 200 K.V.A.	No.	304	47	25	1
	Total K.V.A.	28,317	4,119	2,557	1,222
200-500 K.V.A.	No.	126	9	11	—
	Total K.V.A.	38,146	2,706	4,056	1,488
500-1,000 K.V.A.	No.	136	4	10	—
	Total K.V.A.	99,104	2,838	8,438	—
1,000-5,000 K.V.A.	No.	179	14	12	10
	Total K.V.A.	407,501	38,373	24,275	34,350
5,000-10,000 K.V.A.	No.	66	3	15	—
	Total K.V.A.	487,062	17,500	111,250	38,250
10,000-15,000 K.V.A.	No.	49	—	—	—
	Total K.V.A.	792,200	—	—	—
Dynamos D.C.—C.D.	Total.....No.	208	45	5	16
	Total K.W.	9,449	3,010	340	280
Under—Au-dessous de 200 K.W.	No.	193	40	4	16
	Total K.W.	3,349	360	140	280
200-500 K.W.	No.	10	2	1	—
	Total K.W.	3,000	800	200	—
500-1,000 K.W.	No.	5	3	—	—
	Total K.W.	3,100	1,550	—	—

CENTRAL ELECTRIC STATIONS

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Tableau 14—Machines des usines principales classifiées, 1923

New Brunswick — Nouveau-Brunswick	Nova Scotia — Nouvelle-Ecosse	Ontario	Prince Edward Is. — Ile du Prince-Edouard	Quebec	Saskatchewan	Yukon	Commercial — Commerciales	Municipal — Municipales
33,633	23,652	1,099,989	1,816	787,953	49,964	10,060	1,451,498	972,347
21	24	282	8	215	—	2	470	171
22,120	16,289	1,098,302	279	785,086	—	10,000	1,419,838	862,709
13	17	77	8	83	—	—	173	47
2,720	3,019	14,072	279	14,606	—	—	28,377	9,754
2	5	110	—	56	—	—	130	64
1,500	6,370	117,720	—	62,605	—	—	139,336	71,195
6	2	38	—	26	—	—	71	12
17,900	6,900	107,760	—	72,625	—	—	206,025	35,160
—	—	14	—	17	—	2	41	16
—	—	84,550	—	119,950	—	10,000	272,300	93,900
—	—	24	—	19	—	—	41	13
—	—	283,700	—	206,300	—	—	464,800	162,200
—	—	19	—	14	—	—	14	19
—	—	490,500	—	309,000	—	—	309,000	490,500
20	36	9	2	9	31	1	88	109
10,100	11,983	1,165	500	2,490	41,978	60	26,927	97,956
15	28	9	2	9	19	1	76	83
5,025	7,138	1,165	500	2,490	4,781	60	16,668	20,448
12	26	9	2	8	17	1	70	73
2,125	6,038	1,165	500	1,790	2,931	60	12,118	11,878
3	2	—	—	1	2	—	6	10
2,900	1,100	—	—	700	1,850	—	4,550	8,570
5	8	—	—	—	12	—	12	26
5,075	4,845	—	—	—	37,197	—	10,259	77,508
1	4	—	—	—	1	—	3	3
250	775	—	—	—	84	—	364	745
3	4	—	—	—	2	—	8	4
1,825	4,070	—	—	—	2,003	—	6,895	4,003
1	—	—	—	—	7	—	1	14
3,000	—	—	—	—	21,710	—	3,000	40,160
—	—	—	—	—	2	—	—	5
—	—	—	—	—	13,400	—	—	32,600
10	5	10	7	10	144	—	150	112
1,413	380	522	1,037	377	7,986	—	4,733	11,682
50	68	289	16	215	172	4	677	391
25,248	22,933	844,270	1,520	623,309	43,469	6,030	1,140,945	720,900
42	56	272	14	206	83	2	512	348
24,387	21,128	843,636	1,509	621,995	42,311	6,000	1,134,744	717,652
19	33	40	12	50	64	—	143	161
2,362	3,336	4,157	1,009	5,152	4,396	—	12,870	15,447
12	12	42	2	28	5	—	76	50
3,625	3,467	12,631	500	8,151	1,523	—	22,449	15,697
4	5	68	—	41	4	—	92	44
2,450	3,325	49,789	—	29,872	2,392	—	66,800	32,304
7	6	73	—	47	8	2	129	50
15,950	11,000	150,197	—	105,920	21,500	6,000	288,825	118,742
—	—	30	—	10	2	—	37	29
—	—	245,662	—	61,900	12,500	—	267,800	219,262
—	—	19	—	30	—	—	35	14
—	—	381,200	—	411,000	—	—	476,000	316,200
8	12	17	2	12	89	2	165	43
861	1,805	634	11	1,314	1,158	30	6,201	3,248
7	7	17	2	9	89	2	155	38
211	405	634	11	114	1,158	30	2,751	598
—	5	—	—	2	—	—	8	2
—	1,400	—	—	600	—	—	2,200	800
1	—	—	—	1	—	—	2	3
650	—	—	—	600	—	—	1,250	1,850

Table 15—Electric Energy Generated, 1923

	Canada	Alberta	British Columbia Colombie Britannique	Manitoba	New Brunswick — Nouveau- Brunswick	Nova Scotia — Nouvelle- Ecosse
ALL STATIONS						
Total K.W. Hours Generated ..(thousands)	8,099,192	122,113	577,240	309,461	37,521	41,84
Per cent of total for Canada.....	100.00	1.51	7.13	3.82	0.46	0.5
K.W. hours Generated by Non-Generating Stations.....(thousands)	5,021	55	—	—	—	2
K.W. Hours Generated by Generating Stations.....(thousands)	8,094,171	122,058	577,240	309,461	37,521	41,82
K.V.A. Capacity of Generating Stations....	1,965,923	70,573	171,156	85,515	25,623	23,34
Ratio of output to maximum capacity (per cent)	47.0	19.7	38.5	41.3	16.7	20.4
Average K.W. hours per K.V.A.....	4,117	1,730	3,373	3,619	1,464	1,79
Commercial Stations						
Total						
K.W. hours generated.....(thousands)	5,073,956	69,064	560,122	142,924	29,784	17,46
K.V.A. Capacity.....	1,224,135	27,750	161,201	26,315	15,421	10,18
Ratio of output to maximum Capacity (p.c.)	47.3	28.4	39.7	62.0	22.0	19.4
Average K.W. hours per K.V.A.....	4,145	2,489	3,475	5,431	1,931	1,71
Hydraulic						
K.W. hours Generated.....(thousands)	5,036,892	66,243	559,634	142,763	14,579	2,42
K.V.A. Capacity.....	1,201,950	24,375	160,482	26,100	8,210	3,04
Ratio of output of maximum Capacity (p.c.)	47.8	31.0	39.8	62.4	20.27	9.1
Average K.W. hours per K.V.A.....	4,191	2,718	3,487	5,470	1,776	79
Fuel						
K.W. hours Generated.....(thousands)	37,064	2,821	488	161	15,205	15,04
K.V.A. Capacity.....	22,185	3,375	719	215	7,211	7,11
Ratio of output of maximum Capacity (p.c.)	19.1	9.5	7.8	8.6	24.1	24.1
Average K.W. hours per K.V.A.....	1,670	836	679	749	2,109	2,11
Municipal Stations						
Total						
K.W. hours Generated.....(thousands)	3,020,215	52,994	17,118	166,537	7,737	24,356
K.V.A. Capacity.....	741,788	42,823	9,955	59,200	10,202	13,175
Ratio of output of maximum Capacity (p.c.)	46.5	14.1	19.6	32.1	8.7	21.1
Average K.W. hours per K.V.A.....	4,072	1,238	1,720	2,813	758	1,84
Hydraulic						
K.W. hours Generated.....(thousands)	2,899,256	—	15,013	164,833	6,439	22,055
K.V.A. Capacity.....	648,801	—	8,370	57,475	9,363	11,269
Ratio of output of maximum Capacity (p.c.)	51.0	—	20.5	32.7	7.8	22.3
Average K.W. hours per K.V.A.....	4,469	—	1,794	2,868	687	1,957
Fuel						
K.W. hours Generated.....(thousands)	120,959	52,994	2,105	1,704	1,298	2,301
K.V.A. Capacity.....	92,987	42,823	1,585	1,725	839	1,908
Ratio of output of maximum Capacity (p.c.)	14.9	14.1	15.2	11.3	17.7	13.8
Average K.W. hours per K.V.A.....	1,301	1,238	1,328	988	1,547	1,207
Total Hydraulic						
K.W. hours Generated.....(thousands)	7,936,148	66,243	574,647	307,596	21,018	24,478
K.V.A. Capacity.....	1,850,751	24,375	168,852	83,575	17,573	14,317
Ratio of output of maximum Capacity (p.c.)	48.9	31.0	38.8	42.0	13.7	19.5
Average K.W. hours per K.V.A.....	4,288	2,718	3,403	3,680	1,196	1,710
Total Fuel						
K.W. hours Generated.....(thousands)	158,023	55,815	2,593	1,865	16,503	17,342
K.V.A. Capacity.....	115,172	46,198	2,304	1,940	8,050	9,023
Ratio of output of maximum Capacity (p.c.)	15.7	13.8	12.8	10.9	23.4	21.9
Average K.W. hours per K.V.A.....	1,372	1,208	1,125	961	2,050	1,922

Tableau 15—Energie électrique produite, 1923

Ontario	Prince Edward Is. — Ile du Prince Edouard	Quebec	Saskat- chewan	Yukon	
TOUTES USINES					
4,121,733	1,431	2,816,397	60,090	11,358	Total K.W. heures produits (milliers)
50.86	0.02	34.80	0.74	0.14	Pourcentage du total pour le Canada
4,857	—	77	—	4	K.W. heures produits par les usines non génératrices. (milliers)
4,116,876	1,431	2,816,320	60,090	11,354	K.W. heures produits par les usines génératrices (milliers)
894,348	1,520	644,349	43,469	6,030	Capacité des usines génératrices en K.V.A.
52.5	10.7	49.9	15.8	21.5	Proportion de la production à la capacité (p.c.)
4,603	941	4,371	1,382	1,883	Moyenne des K.W. heures par K.V.A.
Usines commerciales					
Total					
1,452,292	1,259	2,788,332	1,361	11,354	K.W. heures produits (milliers)
343,959	1,180	630,005	2,109	6,030	Capacité en K.V.A.
48.2	12.2	50.5	7.4	21.5	Proportion de la production à la capacité (p.c.)
4,222	1,067	4,426	645	1,883	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
1,451,858	85	2,787,991	—	11,316	W.K. heures produits (milliers)
343,670	332	629,733	—	6,000	Capacité en K.V.A.
48.2	2.9	50.5	—	21.5	Proportion de la production à la capacité (p.c.)
4,225	256	4,427	—	1,886	Moyenne des K.W. heures par K.V.A.
A combustible					
434	1,174	341	1,361	38	K.W. heures produits (milliers)
289	848	272	2,109	30	Capacité en K.V.A.
17.1	15.8	14.3	7.4	14.5	Proportion de la production à la capacité (p.c.)
1,502	1,384	1,254	645	1,266	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
6,064,584	172	27,988	58,729	—	K.W. heures produits (milliers)
550,389	340	14,344	41,360	—	Capacité en K.V.A.
55.3	5.8	22.3	16.2	—	Proportion de la production à la capacité (p.c.)
4,841	506	1,951	1,420	—	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
6,663,834	—	27,082	—	—	K.W. heures produits (milliers).
549,672	—	12,652	—	—	Capacité en K.V.A.
55.3	—	24.4	—	—	Proportion de la production à la capacité (p.c.)
4,846	—	2,141	—	—	Moyenne des K.W. heures par K.V.A.
A combustible					
750	172	906	58,729	—	K.W. heures produits (milliers)
717	340	1,692	41,360	—	Capacité en K.V.A.
11.9	5.8	6.1	16.2	—	Proportion de la production à la capacité (p.c.)
1,046	506	535	1,420	—	Moyenne des K.W. heures par K.V.A.
Total hydrauliques					
115,692	85	2,815,073	—	11,316	K.W. heures produits (milliers)
893,342	332	642,385	—	6,000	Capacité en K.V.A.
52.6	2.9	50.0	—	21.5	Proportion de la production à la capacité (p.c.)
4,607	256	4,382	—	1,886	Moyenne des K.W. heures par K.V.A.
Total à combustible					
1,184	1,346	1,247	60,090	38	K.W. heures produits (milliers)
1,006	1,188	1,964	43,469	30	Capacité en K.V.A.
13.4	12.9	7.2	15.8	14.5	Proportion de la production à la capacité (p.c.)
1,177	1,133	635	1,382	1,266	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 16—Fuel, 1923

Tableau 16—Combustible, 1923

Province	Coal — Charbon		Coke — Coke		Gasoline and Coal Oil — Gazoline et huile de charbon		Fuel Oil — Pétrole	
	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur
	ton — tonnes	\$	ton — tonnes	\$	gal. — gal.	\$	gal. — gal.	\$
Canada.....	474,560	2,207,071	51	760	276,100	73,512	2,968,713	270,885
Alberta.....	183,002	439,116	—	—	44,502	13,630	12,864	3,290
British Columbia.....	7,674	46,478	—	—	44,396	1,973	2,199,132	149,444
Manitoba.....	23,220	147,078	—	—	21,108	4,769	99,416	18,315
New Brunswick.....	26,914	195,172	—	—	2,910	949	92,615	12,820
Nova Scotia.....	60,682	321,207	50	752	1,192	859	47,442	7,584
Ontario.....	50,608	370,274	—	—	6,773	1,758	2,029	1,721
Prince Edward Island.....	2,996	33,976	—	—	890	245	15,988	1,799
Quebec.....	8,474	83,122	—	—	6,907	2,394	19,016	4,080
Saskatchewan.....	110,990	570,648	1	8	147,422	46,935	480,211	71,816
Yukon.....	—	—	—	—	—	—	—	—

	Wood — Bois		Gas — Gaz		Other Fuel — Autre combustible	Total
	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur
	cord — corde	\$	1,000 cu. ft. — 1,000 pd cu.	\$	\$	\$
Canada.....	15,058	69,575	454,316	7,763	9,325	2,638,885
Alberta.....	1	4	454,316	7,763	97	463,900
British Columbia.....	600	1,258	—	—	—	199,162
Manitoba.....	4,251	22,304	—	—	273	192,736
New Brunswick.....	200	600	—	—	100	209,647
Nova Scotia.....	666	2,674	—	—	2,208	335,285
Ontario.....	1,996	9,721	—	—	—	383,478
Prince Edward Island.....	120	480	—	—	15	36,515
Quebec.....	55	255	—	—	5,314	95,171
Saskatchewan.....	6,645	27,778	—	—	1,318	718,503
Yukon.....	524	4,501	—	—	—	4,501

CANADA
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY, 1924

CENTRAL ELECTRIC STATIONS
IN CANADA

(Prepared in collaboration with the Dominion Water Power and Reclamation Service, Department of the Interior, with the assistance of the Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and The Manitoba Power Commission)

Published by authority of the Hon. J. A. Robb, M.P., Acting Minister of Trade and Commerce



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1926

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PREFACE.

The annual report on the central electric station industry in Canada for 1924, compiled by authority of the Statistics Act, 1918 (8-9 George V, Chapter 3), has been prepared along the same lines as in previous years, except that additional data have been included in the tables of capital, revenues and customers, some slight abridgements have been made in a few of the less important tables, and the order of the provinces in the tables has been changed from alphabetical to geographical, from east to west.

The report was compiled and written by Mr. G. S. Wrong, B.Sc., Chief of the Transportation Branch of the Bureau and, under a co-operative arrangement with the Dominion Water Power and Reclamation Services of the Department of the Interior, was checked and edited by Mr. Alexander Roger under the direction of Mr. J. T. Johnston, the Director of that branch. Assistance was also received from the Gas and Electricity Inspection Services of the Department of Trade and Commerce and the several provincial power commissions, for which the Bureau tenders its thanks.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, December 15, 1925.

NOTE ON CANADIAN WATER-POWERS

By the Dominion Water Power and Reclamation Service

The close interconnection of water-power with the central electric station industry is at once made evident when it is stated that over 77 per cent of the total hydraulic installation of Canada is in central electric stations, that over 94 per cent of the main plant equipment of central stations is driven by water-power and that 98 per cent of the electrical energy generated for public distribution in Canada is produced by water-power.

The administration of the water resources of the Dominion is in accordance with the terms of the British North America Act of 1867, a divided federal and provincial responsibility.

The federal authority extends over the water-powers of the provinces of Alberta, Saskatchewan and Manitoba and the Yukon and Northwest Territories, administrative control being vested in the Dominion Water Power and Reclamation Service, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water-power administration in their respective provinces. The federal Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the provinces of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island were the property of the respective provinces before Confederation, administrative control of water-powers situated within these provinces is vested in the legislative assemblies, active administration being carried on in British Columbia, by the Department of Lands; in Ontario, by the Department of Lands and Forests; in Quebec, by the Department of Lands and Forests; in New Brunswick by the Department of Lands and Mines; in Nova Scotia by the Commissioner of Public Works and Mines; and in Prince Edward Island by the Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

The year 1925 witnessed the unprecedented increase in Canada's hydraulic installation of over 718,000 horse-power all but 8,250 horse-power of which was installed for public distribution. While slightly over half of this total is due to the completion of the great Duke-Price development on the Saguenay river on which construction commenced early in 1923, over 355,000 horse-power represents additions to existing plants or additional stations built by organizations already in the Canadian hydro-electric field.

In the province of Quebec the Southern Canada Power Company completed a 37,800 horse-power installation at Hemming Falls near Drummondville and added two units totalling 12,000 horse-power to their existing Drummondville station, bringing its capacity to 19,500 horse-power and extended their

transmission lines to cover a considerable area not previously served with electricity. The Ottawa River Power Company completed and brought into operation a plant at Bryson, P.Q., with an initial installation of 25,000 horse-power an ultimate installation of about 60,000 horse-power being provided for. This plant will serve Ottawa and Hull and the area along the transmission line between the plant and those cities. The completion of the initial installation of 360,000 horse-power at the Duke-Price Power Company's plant at the Grand Discharge, Saguenay river, marks the beginning of the development of that mighty stream and work has already commenced on another great station which will have an initial installation of 240,000 horse-power and in which by assuming complete river regulation and providing the necessary spare equipment for continuous operation 800,000 horse-power is to be ultimately installed.

In Ontario 199,800 horse-power came into operation during the year, most of which was in various plants owned by the Hydro-Electric Power Commission. Additions of 110,000 horse-power and 25,000 horse-power respectively were made to the equipment of the Chippawa-Queenston and Nipigon stations. The South Falls, Muskoka River station, was remodelled and its capacity increased from 1,750 horse-power to 5,500 horse-power, while 1,800 horse-power was installed in a new development at Hanna Chutes, one mile upstream. On the Central Ontario System a new development at Dam 9 on the Trent canal was completed with 4,800 horse-power automatically controlled from the Ranneys Falls station, three miles distant. Additional power for the pulp and paper and mining industries in the northern part of the provinces is provided through the doubling of the Island Falls plant of the Abitibi Electrical Development Company, by the installation of 24,000 horse-power; the addition of 6,000 horse-power to the Twin Falls plant of the Abitibi Power and Paper Company, and the completion of a new plant of 7,000 horse-power by the Wahnapiitae Power Company.

In British Columbia the raising of the level of Stave Lake dams, the addition of a new unit and the rewinding of others increased the installation of the British Columbia Electric Railway Company's Stave Falls station by 3,000 horse-power to a total of 75,000 horse-power. The Lower Bonnington Falls station of the West Kootenay Power and Light Company was completely demolished and replaced by one of 40,000 horse-power.

In Manitoba the city of Winnipeg installed three new units of 7,300 horse-power each in its Winnipeg River station and completed a steam standby plant of 1,000 K.W. capacity as protection against interruptions in hydro-electric supply.

The Dominion Water Power and Reclamation Service, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful analysis and computation by the Service, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hour power at 50 p.c. eff.		Turbine Installation h.p.
	At ordinary minimum flow h.p.	At ordinary 6 months flow h.p.	
1	2	3	4
British Columbia.....	1,931,142	5,103,460	414,702
Alberta.....	475,281	1,137,505	34,107
Manitoba.....	513,481	1,087,756	35
Ontario.....	3,270,491	5,769,444	183,925
Quebec.....	4,950,300	6,808,190	1,781,842
New Brunswick.....	6,915,244	11,040,052	1,747,386
Nova Scotia.....	50,406	120,807	44,631
Prince Edward Island.....	20,751	128,264	65,327
Yukon and Northwest Territories.....	3,000	5,270	2,274
	125,220	275,250	13,199
	18,255,316	32,075,998	4,290,428

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 464 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, January 1, 1926.

CENSUS OF CENTRAL ELECTRIC STATION INDUSTRY, 1924

The central electric station industry during 1924 continued to show a healthy growth. The number of power plants remained the same as in 1923 but by additions to existing plants and larger stations starting operation, the few stations that ceased to operate being small ones, the capacity of the industry as a whole was increased by 425,605 horse-power in main plant equipment and 18,530 horse-power in auxiliary plant equipment, or a total of 444,135 horse-power. Extensions to transmission and distribution lines were made in every province, the number of municipalities served increased from 1,146 in 1923 to 1,219 and the number of customers increased by 88,403, or 8 per cent. The output also showed the substantial increase over that of 1923 of 15 per cent, or 1,216,085,000 kilowatt hours.

Some of the larger additions to primary power equipment made during the year were 120,000 horse-power by the St. Maurice Power Company, 22,600 horse-power by the Montreal Light, Heat and Power Company, 20,000 horse-power by Quinze Power Company in Quebec, 136,000 horse-power in the Niagara plants, 6,600 horse-power in the Central Ontario System, and 25,000 horse-power in the Cameron Falls plant of the Ontario Hydro-Electric Power Commission and 12,500 horse-power by the Canadian Niagara Power Company in Ontario. In Manitoba the Manitoba Power Company put into operation 56,000 horse-power and in British Columbia the East Kootenay Power Company at Fernie added 15,000 horse-power to their plant.

The electric energy exported to the United States during 1924 was less than in 1923 by 41,882,589 kilowatt hours and although the output of the companies exporting shows an increase, it was made up largely by the increase of the Hydro-Electric Power Commission of Ontario. In 1923 only the output of the plants of the Ontario Power Company and of the Toronto Power Company was shown, whereas in 1924 the entire output of the Commission's plants on the Niagara river was shown including the output of the Queenston plant. The following table shows the quantities exported and generated by each company exporting during 1924.

KILOWATT HOURS EXPORTED TO UNITED STATES, CALENDAR YEAR, 1924

	Exported	Total Generated
	k.w. hours	k.w. hours
Maine & N.B. Electric Power Co.....	9,191,026	10,417,596
Sherbrooke Railway and Power Co.....	800	8,822,000
Cedar Rapids Manufacturing and Power Co.....	425,979,000	756,785,000
Hydro-Electric Commission of Ontario.....	495,054,700	2,314,181,120
Canadian Niagara Power Co.....	316,071,356	536,419,000
Ontario and Minnesota Power Co.....	12,187,300	26,000,947
Western Canada Power Co.....	42,638,330	160,570,150
West Kootenay Power and Light Co.....	572,800	195,821,300
British Columbia Electric Railway Co.....	621,366	138,886,200
Total.....	1,302,316,678	4,147,913,313

Table 1—Comparative Summary: The number of power plants has increased only 5 per cent in the four years 1920 to 1924 but the capital invested has increased 40 per cent and the output 58 per cent. The capital of municipal stations increased 120·3 per cent in the four years, the largest factor being the developments and extensions of the provincial commissions, especially that of the Ontario Hydro Electric Power Commission, which, during this period, completed the large Queenston station with its power canal from Chippawa. Other large developments completed were the Nipigon and High Falls plants and the Commission also acquired the entire plant of the Toronto Power

Company which involved a transfer of capital from the commercial to the municipal group; the relatively small increase of 4.9 per cent in the capital of commercial stations was also affected by this transfer.

Steam engines and turbines as a source of primary power for this industry are losing ground and with further improvements in long distance transmission, more and more steam plants are likely to be driven out of the field by hydro-electric energy. The loss was all in the reciprocating engines, the steam turbines showing a gain in horse-power of 12.2 per cent. Internal combustion engines also showed an increase of one-third of their capacity in 1920. These engines are practically all small units located in districts devoid of water-power developments and their increase is an indication of the improvements in the internal combustion engine and the desire of the people to have electric light in preference to the coal oil lamp. Practically all of the direct current dynamos are operated in conjunction with these internal combustion engines and in power plants of electric railways which also sell electricity for lighting and general power purposes. The expenses shown in this and following tables include only wages, cost of fuel and cost of power purchased by distributing stations; these data for each of the years 1920 to 1923 inclusive have been recompiled, putting them on the same basis as the 1924 data.

Table 2—Summary of Principal Data, 1924-1923: The capital invested in municipal stations was 48 per cent of the total in 1924 as against only 30 per cent in 1920 and the output was 35 per cent of the total in 1924 and 24 per cent in 1920. The greater increase in capital invested in municipal stations than in output is slightly affected by the investments of municipalities buying power from commercial generating stations, but the important factor is the more retail nature of the business of municipal stations as compared with that of the commercial stations; table 4 shows that the capital of transmission and distribution lines of municipal stations was 40 per cent of the total whereas with commercial stations it was only 29 per cent. While the investments, revenues and output of commercial stations show increases each year these items of municipal stations have increased much more rapidly. The increase in the industry during 1924 was 8 per cent in capital and in number of customers, 10 per cent in net revenues and 15 per cent in output and in the horse-power of main plant equipment. The water-wheels and turbines of commercial stations were increased by 253,460 horse-power and of municipal stations by 171,950 horse-power; the additions to steam, gas and oil engines were relatively small.

Table 3—Electric Power Plants: For census purposes a central electric station is defined as a municipality, company or other organization selling electricity. This table does not add unlike stations but shows the number of power plants and the number of organizations generating and buying electricity for resale. Where two or more power plants are owned by one company or organization each plant is counted and the provincial commissions are each counted as one municipal organization. Over 80 per cent of the municipalities buying power for redistribution are in Ontario and practically all of these buy from the provincial commission.

The populations of the municipalities served are only approximate as official figures were not available; also they do not include the rural residents using electricity who were living outside the limits of cities, towns and incorporated villages or residents of unincorporated villages with the exceptions of those in South Vancouver and Point Grey in British Columbia.

Table 4—Capital: The division of capital between generation, transmission, distribution and general, the last including office buildings, cash and trading accounts, supplies, etc., has been made as best possible but in many cases the division was only approximate. On the whole these figures represent investments although some stations have reported appraised values and some have deducted depreciation.

The averages at the foot of the table of total capital are the total capital divided by horse-power and K.V.A. capacity of equipment in main plant and in main and auxiliary plant. There are also shown the average capital per horse-power invested in the power-houses only, the average capital per mile invested in transmission lines and invested in distribution lines. The differences in the unit costs of transmission lines are quite marked. The long lines composed of steel towers and carrying several high tension cables and lines through thickly settled country where right of way must be purchased or leased and fenced are much more costly than wooden pole lines through unsettled country and the unit costs indicate in a rough way these differences in the transmission lines in the several provinces.

Table 5—Revenue: Gross revenues include the income from electric energy sold to other central electric stations and net revenue is the gross revenue less this cost of power purchased or is the total amount paid by the consumers. The revenue from power sold to other stations is included in the gross revenue under "For all other purposes" and the revenue from lighting is a net figure.

Since the output is measured at the generating station the averages of net revenue per kilowatt hour include all line and transformer losses. It would be very interesting to compare average revenue per unit of current for lighting and for power but the consumption is not segregated between lighting and power and consequently these data cannot be computed. The average revenue per kilowatt hour of all stations includes revenue for all electric energy sold and is affected by the relative amounts sold for power and for light, by the nature of the primary power, by the average load factor, etc., and these factors should be considered when making comparisons.

The value of electricity furnished to municipalities for street lighting, etc., without any direct payment being received which in previous reports was shown as "Free Service" has been included with revenues. Practically all of such free service was furnished by municipal stations, which should be credited with the revenue based on a fair value.

Table 6—Expenses: This table includes only salaries and wages, cost of fuel and cost of power exchanged between stations. These expenses are not the total operating expenses and do not indicate whether or not the various groups of stations operated at a profit.

Table 7—Employees: The number of employees showed an increase over 1923 of 17 per cent, the greatest rate of increase being in the Manitoba stations where the number jumped from 618 in 1923 to 959 in 1924, or an increase of 55 per cent, the opening of a large station being a factor. In Ontario stations the increase was 994 or 18 per cent and in Quebec stations, 338, or 14 per cent. These data contain some part time employees but are compiled on the same basis each year and are comparable.

Table 8—Customers: The number of customers increased 88,403 during the year, the domestic light customers increasing 68,257, or 7.4 per cent, commercial light customers increasing 16,515, or 10.3 per cent, and power customers increasing 3,631, or 11.2 per cent. The largest provincial increase was in Ontario, where 33,195 new customers were added; in Quebec the increase was 24,671 and in Manitoba, 16,760.

The average number of domestic light customers per 100 population is computed by using the entire estimated population of each province.

Table 9—Pole Line Mileage: Distribution pole line mileage is credited with all pole lines between generating stations and consumers where power is not stepped up for transmission and is transmitted at the generated voltage and it also includes all pole lines carrying primary and secondary circuits. Transmission pole line mileage includes all lines between power-houses and receiving stations or substations where the power is stepped up at the generating station and stepped down at the substation.

The increase in total pole line mileage during the year was 3,094 miles, or 13 per cent, the Ontario stations leading with an increase of 1,955 miles, or 18 per cent, and Quebec stations second with an increase of 712 miles, or 15 per cent.

Tables 10-11-12-13—Equipment: Auxiliary plant equipment includes the steam and internal combustion engines in water-power plants and the dynamos driven by them and main plant equipment includes all water-wheels and turbines and dynamos driven by them and all engines and dynamos in fuel stations or stations using coal, gas, oil or other fuel in the primary power equipment. There are also a few stations buying practically all of their electricity but have equipment in reserve which is also included in auxiliary plant equipment. This is the only practical method of dividing the equipment, although it is not exact on account of some steam or oil engines in hydro-electric stations being operated more or less continuously and not held in reserve. There are also some fuel plants which have units held in reserve to meet emergencies which by the above method are included in main plant equipment. In pulp and paper mills, saw-mills, power-houses of electric railways, etc., which also sell electric energy, only those units used in generating current for sale are included.

Table 14—Electric Energy Generated: The total output of all stations was 15 per cent greater in 1924 than in 1923. Commercial stations increased their output 19 per cent, or 950,276,000 kilowatt hours, the Quebec stations accounting for 897,638,000 kilowatt hours of this increase and the increase in the output of municipal stations was 9 per cent, or 263,919,000 kilowatt hours. The small amount shown as output of non-generating stations was generated by the reserve equipment in a few stations which buy practically all the power they sell. Included in this is the output of the municipal station at Windsor, Ont., which bought from the provincial commission and also generated power. The ratios of output to maximum capacity are the total outputs divided by the product of the capacity and the number of hours in the year, viz., 8,784 hours in 1924, units which were installed during the year being charged only with the time in operation, or in other words, the average capacity for the year was used and not the capacity at the end of the year. Similarly the average output per K.V.A. capacity is the total output divided by the average capacity for the year. This is a more accurate method than using the total capacity at the end of the year and raises the average where large units are installed toward the close of the year.

The range of utility of equipment or ratio of output to maximum capacity was great, running from 3 per cent for hydro-electric stations in Prince Edward Island and 7.6 per cent for municipal fuel stations in Alberta to 58.4 for commercial hydro-electric stations in Quebec. This last is the highest ratio of this nature so far recorded and is only possible with large stations having a great variety of customers.

Table 15—Fuel: This table includes all fuel consumed in fuel stations and by auxiliary equipment of hydraulic stations. It does not include the cost of steam purchased by the municipal station in Windsor mentioned under table 14 which is classified as a non-generating station although its output was over six million kilowatt hours for the year.

Where data in tables of capital, revenue and expenses, pertain to less than three stations asterisks have been inserted.

CENTRAL ELECTRIC STATIONS

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Table 1—Comparative Summary, 1924-1920=Tableau 1—Résumé comparatif, 1924-1920

Principal Data by Class of Station Données principales par classes d'usines		1924	1923	1922	1921	1920	Per cent increase 1924 over 1920 — Pourcentage d'augmen- tation de 1924 sur 1920
Electric Power Plan.s—	Usines généra- trices—						
Total	Total	532	532	542	510	506	5.1
Hydraulic.....	Hydrauliques.....	273	269	269	259	258	5.8
Fuel.....	A combustible.....	259	263	253	251	248	4.4
Commercial.....	Commerciales.....	333	335	326	317	321	3.7
Municipal.....	Municipales.....	199	197	196	193	185	7.6
Capital— Total	Capitaux— Total	628,565,093	581,780,611	568,068,752	484,669,451	448,273,642	40.2
Commercial.....	Commerciales.....	326,554,580	307,046,240	326,448,922	327,439,827	311,160,342	4.9
Municipal.....	Municipales.....	302,010,513	274,734,371	241,619,830	157,229,624	137,113,300	120.3
Generating.....	Productrices.....	532,016,164	489,085,939	484,635,750	410,382,619	380,372,831	39.9
Non-generating.....	Non productrices.....	96,548,929	92,694,672	83,433,002	74,286,832	67,900,811	42.2
Revenue— Total	Recettes— Total	95,169,768	91,141,296	82,328,866	73,376,580	65,705,060	44.8
Commercial.....	Commerciales.....	47,529,216	44,539,654	44,776,945	42,713,327	39,904,747	19.1
Municipal.....	Municipales.....	47,640,552	46,601,642	37,551,921	30,663,253	25,800,313	84.7
Generating.....	Productrices.....	65,602,441	62,304,186	56,385,731	52,446,929	48,042,642	36.6
Non-generating.....	Non productrices.....	29,567,327	28,837,110	25,943,135	20,930,651	17,662,418	67.4
Expenses— Total	Dépenses— Total	40,887,779	41,067,329	37,327,493	33,364,566	30,085,903	35.9
Commercial.....	Commerciales.....	16,777,557	15,319,394	14,704,651	14,175,563	13,815,274	21.4
Municipal.....	Municipales.....	24,110,222	25,747,935	22,622,842	19,189,003	16,270,629	48.2
Generating.....	Productrices.....	20,198,257	20,992,105	19,304,835	18,078,155	16,645,033	21.3
Non-generating.....	Non productrices.....	20,689,522	20,075,224	18,022,658	15,286,411	13,440,870	53.9
Line Mileage— Total	Lignes sur poteaux— Total	16,654	23,560	22,669	21,714	20,879	27.7
Commercial.....	Commerciales.....	12,102	11,146	11,123	10,987	10,721	12.9
Municipal.....	Municipales.....	14,552	12,414	11,546	10,727	10,158	43.3
Generating.....	Productrices.....	17,340	14,405	13,927	13,460	13,651	27.0
Non-generating.....	Non productrices.....	9,314	9,155	8,742	8,254	7,228	28.9
Customers— Total	Abonnés— Total	1,200,950	1,112,547	1,053,545	973,312	894,158	34.3
Domestic light.....	Eclairage domesti- que.....	988,480	920,223	889,346	830,062	764,907	29.2
Commercial light.....	Eclairage commer- cial.....	176,444	159,929	164,199	143,150	129,251	—
Power.....	Force motrice.....	36,026	32,395	—	—	—	—
Commercial stations.....	Commerciales.....	521,064	496,591	476,285	466,235	437,672	19.1
Municipal stations.....	Municipales.....	679,886	615,956	577,260	508,977	456,486	48.9
Generating.....	Productrices.....	610,206	547,928	533,923	531,643	504,026	21.1
Non-generating.....	Non productrices.....	590,744	564,619	519,622	441,569	390,132	51.4
Electric Energy Gen- erated— Total kilowatt hours (thousands)	Energie Electrique produite— K.W. heures pro- duit (milles)	* 9,315,277	*8,099,192	*6,740,750	5,614,132	5,894,867	58.0
Commercial.....	Commerciales.....	6,024,312	5,074,120	5,119,676	4,316,272	4,456,428	35.2
Municipal.....	Municipales.....	3,290,965	3,025,072	1,621,074	1,297,860	1,438,439	128.8
Equipment in generating stations (main plant only). Chimie dans les usines productrices (Machines des usines principales).							
Total primary power.	H.P.	2,849,450	2,423,845	2,258,398	1,977,857	1,897,024	50.2
Water wheels and turbines.....	No.....	667	641	629	604	594	12.3
Turbines et roues hydrauliques.....	H.P.....	2,707,957	2,282,547	2,112,289	1,826,357	1,754,130	54.4
Steam reciprocating engines.....	No.....	147	159	175	187	196	—25.0
Machines à vapeur.....	H.P.....	33,876	37,116	40,484	45,450	49,430	—31.5
Steam turbines.....	No.....	40	38	41	43	37	8.1
Turbines à vapeur.....	H.P.....	90,617	87,767	89,545	90,705	80,750	12.2
Internal combustion engines.....	No.....	271	262	225	203	179	51.4
Moteurs à gaz et à pétrole.....	H.P.....	17,000	16,415	16,080	15,345	12,714	33.7
total dans les usines commerciales.....	H.P.....	1,701,393	1,451,498	1,565,229	1,443,593	1,415,488	20.2
total dans les usines municipales.....	H.P.....	1,147,657	972,347	693,169	534,324	481,536	138.3
Total secondary power.	K.V.A.	2,282,046	1,862,195	1,736,199	1,475,610	1,451,829	57.2
Dynamos A.C.....	No.....	881	863	857	841	817	7.8
Dynamos C.A.....	K.V.A.....	2,273,461	1,852,746	1,725,831	1,464,022	1,439,937	57.9
Dynamos D.C.....	No.....	206	208	181	172	165	24.8
Dynamos C.D.....	K.V.A.....	8,585	9,449	10,368	11,588	11,892	—27.8
total dans les usines commerciales.....	K.V.A.....	1,400,871	1,140,945	1,210,947	1,086,128	1,078,611	29.9
total dans les usines municipales.....	K.V.A.....	880,575	720,900	525,252	389,482	373,218	135.9

Includes only—Wages, cost of fuel and cost of power

Comprend seulement les appointements et salaires, le coût du combustible et de la force motrice.

Includes estimates for stations not reporting output.

Comprend l'estimation des stations qui ne font pas connaître leur production.

Table 2—Summary of Principal Data 1924-1923

	Total		Commercial Commerciales		Municipal Municipales	
	1924	1923	1924	1923	1924	1923
	1	2	3	4	5	6
Total Number of Electric Power Plants...	532	532	333	335	199	197
No. of hydraulic plants.....	273	269	195	194	78	75
No. of fuel plants.....	259	263	138	141	121	122
Total Capital.....	628,565,093	581,780,611	326,554,580	307,046,240	302,010,513	274,734,371
Lands, buildings, equipment, etc.....	580,769,137	521,253,598	306,556,636	271,776,655	274,212,501	249,476,943
Materials on hand, cash trading accounts, etc.	47,795,956	60,527,013	19,997,944	35,269,585	27,798,012	25,257,428
Total Gross Revenue from Sale of Electric Energy.....	95,169,768	91,141,296	47,529,216	44,539,654	47,640,552	46,601,642
For lighting purposes.....	36,011,117	33,187,276	15,463,296	14,714,521	20,547,821	18,472,755
For all other purposes.....	59,158,651	57,954,020	32,065,920	29,825,133	27,092,731	28,128,887
Net revenue.....	74,616,803	67,496,893	39,033,665	37,040,835	35,583,198	30,456,058
Operating Expenses.....	40,887,779	41,067,329	16,777,557	15,319,391	24,110,222	25,747,935
Salaries and wages.....	17,946,584	14,784,038	7,296,133	6,500,590	10,650,451	8,283,448
Fuel.....	2,388,290	2,638,888	985,873	1,319,985	1,402,417	1,818,903
Cost of power.....	20,552,905	23,644,403	8,495,551	7,498,819	12,057,354	16,115,584
Total Number of Employees.....	12,956	11,094	5,849	5,049	7,107	6,045
Total Mileage of Pole Lines.....	26,654	23,560	12,102	11,146	14,552	12,414
For transmission.....	9,147	8,406	4,809	4,361	4,338	4,045
For distribution.....	17,507	15,154	7,293	6,785	10,214	8,369
Total Number of Customers.....	1,200,950	1,112,889	521,064	496,591	679,886	616,298
Domestic light.....	988,480	920,487	422,464	409,337	566,016	511,150
Commercial light.....	176,444	160,007	81,700	72,229	94,744	87,778
Power.....	36,026	32,395	16,900	15,025	19,126	17,370
Total K.W. hrs. generated (thousands)...	9,315,277	8,099,192	6,024,312	5,074,120	3,290,965	3,025,072
Total Power Equipment (excluding Auxiliary Plant Equipment)						
	Total		Commercial Commerciales		Municipal Municipales	
	1924	1923	1924	1923	1924	1923
	1	2	3	4	5	6
Total Primary Power.....H. P.	2,849,450	2,423,845	1,701,793	1,451,498	1,147,657	972,347
Water wheels and turbines.....No.	667	641	482	470	185	171
H.P.	2,707,957	2,282,547	1,673,298	1,419,833	1,034,659	862,709
Steam reciprocating engines.....No.	147	159	67	76	80	83
H.P.	33,876	37,116	13,463	16,668	20,413	20,448
Steam turbines.....No.	40	38	12	12	28	26
H.P.	90,617	87,767	10,259	10,259	80,558	77,508
Gas and oil engines.....No.	271	262	154	150	117	112
H.P.	17,000	16,415	4,773	4,733	12,227	11,682
Total Secondary Power.....K. V. A.	2,282,046	1,861,845	1,401,471	1,140,945	880,575	730,900
Dynamos, A.C.....No.	881	860	520	512	361	348
K.V.A.	2,273,461	1,852,396	1,396,205	1,134,744	877,259	717,652
Dynamos, D.C.....No.	206	208	161	165	45	43
K.W.	8,585	9,449	5,266	6,201	3,316	3,248

CENTRAL ELECTRIC STATIONS

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Tableau 2—Résumé comparatif des donnés principales, 1924-1923

Generating Productrices		Non-Generating Non-productrices		Per Cent of Column 1 Pour cent de la 1ère col.				
1924	1923	1924	1923	Com- mer- ciales 1924	Mu- ni- ci- pales 1924	Gen- erat. Prod. 1924	Non Gen. Non- prod. 1924	
7	8	9	10	11	12	13	14	
532 273 259	532 267 263	— — —	— — —	62.59 71.43 53.28	37.41 28.57 46.72	100.00 100.00 100.00	— — —	Nombre d'usines génératrices. Nombre d'usines hydrauliques. Nombre d'usines à combustible.
532,016,164	489,085,939	96,548,929	92,694,672	51.95	48.05	84.64	15.36	Total des capitaux.
506,312,147	452,146,668	74,456,900	69,106,930	52.78	47.22	87.18	12.82	Terrains, bâtiments, aménagements, etc.
25,704,017	36,939,271	22,091,939	23,587,742	43.83	56.17	56.14	43.86	Matières premières en stock, fonds en caisse, créances à recouvrer, etc.
65,602,441	64,780,162	29,567,327	26,361,134	49.94	50.06	68.93	31.07	Total des rec. prod. par l'élect., ven- due.
18,711,610	26,748,806	17,299,507	6,438,470	42.94	57.06	51.96	48.04	Pour éclairage.
46,890,831	38,031,356	12,267,820	19,922,664	54.20	45.80	79.26	20.74	Pour tout autres usages.
59,861,915	52,681,003	14,754,948	14,815,890	52.31	47.69	80.23	19.77	Revenne net.
20,198,257	20,992,105	20,689,522	20,076,224	41.03	58.97	49.40	50.60	Dépenses d'exploitation
12,079,462	8,746,298	5,867,122	6,037,740	40.65	59.35	67.31	32.69	Traitements, appoint. et salaires
2,378,269	2,622,624	10,021	17,264	41.28	58.72	99.58	00.42	Combustible
5,740,526	9,623,183	14,812,379	14,021,220	41.33	58.67	27.93	72.07	Achat de force motrice électrique
8,630	6,545	4,326	4,548	45.15	54.85	66.61	33.39	Nombre total du personnel
17,340	14,405	9,314	9,155	45.40	54.60	65.06	34.94	Long en milles des lignes sur poteaux
8,317	7,364	830	1,042	52.57	47.43	90.93	9.07	De transmission
9,023	7,041	8,484	8,113	41.66	58.34	51.54	48.46	De distribution
610,206	547,928	599,744	564,961	43.39	56.61	50.81	49.19	Nombre total des abonnés des usines
502,750	456,969	485,730	403,518	42.74	57.26	50.86	49.14	Eclairage, commerçants
87,659	75,337	88,785	84,670	46.30	53.70	49.68	50.32	Eclairage, particuliers
19,797	15,622	16,229	16,773	46.91	53.09	51.95	48.05	Force motrice
9,308,366	8,094,171	6,911	5,021	64.67	35.33	99.93	0.07	Total des kilowatt-heures produits (milliers)
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)								Total Power Equipment in Auxiliary Plants
Per Cent of Cols. 1 & 2 Pourcent des col. 1 et 2				Per Cent of Totals of Columns 3, 4, 5 & 6 Pourcent des col. 3, 4, 5 et 6				Machines des usines auxiliaires
Commercial		Municipal		Commercial		Municipal		
1924	1923	1924	1923	1924	1923	1924	1923	
4	8	9	10	11	12	13	14	15
7	59.9	40.3	40.1	100.0	100.0	100.0	100.0	168,102
3	73.3	27.7	26.7	—	—	—	—	—
8	62.2	38.2	37.8	98.3	97.8	90.1	88.7	—
6	47.8	54.4	52.2	—	—	—	—	49
7	44.9	60.3	55.1	00.8	01.1	1.8	2.1	22,911
0	31.6	70.0	68.4	—	—	—	—	34
3	11.7	88.7	88.3	00.6	00.8	7.0	8.0	143,950
9	57.3	43.2	42.7	—	—	—	—	11
1	28.8	71.9	71.2	00.3	00.3	1.1	1.2	1,241
4	61.3	38.6	38.7	100.0	100.0	100.0	100.0	138,755
0	59.5	41.0	40.5	—	—	—	—	78
4	61.3	38.6	38.7	99.6	99.5	99.6	99.5	134,830
2	79.3	21.8	20.7	—	—	—	—	6
3	65.6	38.7	34.4	0.4	0.5	0.4	0.5	1,925
								1,680
								Total force motrice primaire, H.P.
								Turbines, et roues hydrauliques nomb. H.P.
								Machines à vapeur..... nomb. H.P.
								Turbines à vapeur..... nomb. H.P.
								Moteurs à gaz et à pétrole..... nomb. H.P.
								Total force motrice secondaire K.V.A.
								Dynamos, C.A..... nomb. K.V.A.
								Dynamos, C.D..... nomb. K.W.

Table 3—Electric Power Plants—Municipalities served 1924

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Power Generating Stations	532	10	36	22	102	130
Per cent of total for Canada	100·00	1·88	6·77	4·13	19·17	22·56
Commercial	333	8	20	14	83	74
Hydraulic	195	7	9	5	78	68
Fuel	138	1	11	9	5	6
Municipal	199	2	16	8	19	46
Hydraulic	78	—	10	3	15	39
Fuel	121	2	6	5	4	7
With water wheels and turbines only	236	5	16	7	83	97
With water wheels, turbines and fuel auxiliary	37	2	3	1	10	10
With steam engines only	79	—	9	6	4	7
With steam turbines only	8	—	3	1	1	—
With gas or oil engines only	153	1	2	5	4	6
With both steam engines and turbines	10	—	2	1	—	—
With both steam and gas or oil engines	8	2	1	1	—	—
With both steam turbines and gas or oil engines	1	—	—	—	—	—
With alternating current dynamos only	397	9	32	17	93	104
With direct current dynamos only	128	1	3	4	7	15
With both alternating and direct current dynamos	7	—	1	1	2	1
Commercial Organizations	386	9	35	23	93	79
Number generating power	306	8	19	14	68	65
Number buying power for redistribution	80	1	16	9	25	14
Municipalities	510	2	23	14	40	300
Number generating power	171	2	15	8	16	24
Number buying power for redistribution	339	—	8	6	24	276
Cities, Towns and Villages served						
No	1,219	15	82	46	346	410
Population	4,772,655	23,955	264,998	167,906	1,397,990	1,828,088
Ratio of total population (per cent)	52·00	27·00	50·00	42·00	56·00	60·00
By Commercial organizations—						
No	674	13	47	28	297	105
Population	2,082,133	19,633	123,035	64,369	1,223,596	191,975
By municipal systems—						
No	533	2	35	16	49	298
Population	2,041,752	4,322	141,963	34,787	174,403	1,325,289
By both—						
No	12	—	—	2	—	7
Population	648,770	—	—	68,750	—	310,827
By hydraulic stations—						
No	900	11	41	22	334	395
Population	3,995,743	5,943	105,624	58,396	1,343,496	1,811,288
By fuel stations—						
No	317	4	41	23	12	15
Population	638,362	18,012	159,374	40,960	54,503	16,800
By both hydro and fuel—						
No	2	—	—	1	—	—
Population	138,550	—	—	68,550	—	—

Tableau 3—Usines génératrices—Municipalités desservies, 1924

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
26 4·89	113 21·24	60 11·28	41 7·71	2 ·37	Nombre d'usines génératrices
11 3 8	65 — 65	30 4 26	26 20 6	2 1 1	Pourcentage dans chaque province
15 2 13	48 — 48	30 1 29	15 8 7	— — —	Usines commerciales
1 4	— —	4 1	22 6	— —	Hydrauliques
10 — 11	9 3 98	25 — 21	8 — 5	1 — —	A combustible
— — —	— 3 —	4 4 1	— — —	— — —	Usines municipales
16 10 —	49 64 —	39 19 2	37 4 —	1 1 —	Hydrauliques
14 11 3	65 65 —	35 29 6	30 25 5	3 2 1	A combustible
21 14 7	50 47 3	34 30 4	26 15 11	— — —	Avec roues et turbines hydrauliques seulement
55 322,885 50·00	120 165,135 20·00	68 213,051 33·00	75 388,863 70·00	2 1,775 50·00	Avec roues et turbines hydrauliques plus usines auxiliaires
28 88,680	69 29,231	37 25,713	48 314,126	2 1,775	Avec machines à vapeur seulement
26 39,355	51 135,904	30 117,338	26 68,394	— —	Avec turbines à vapeur seulement
1 194,850	— —	1 70,000	1 4,343	— —	Avec moteur à gaz ou à pétrole seulement
32 300,534	— —	4 2,236	60 367,251	1 975	Avec machines et turbines à vapeur à la fois
23 22,351	120 165,135	63 140,815	15 19,612	1 800	Avec machines à vapeur, à gaz et à pétrole
— —	— —	1 70,000	— —	— —	Avec turbines à vapeur et moteur à gaz à pétrole
					Avec dynamos à courant alternatif seulement
					Avec dynamos à courant direct seulement
					Avec dynamos à courant alternatif et direct
					Usines commerciales
					Nombre d'usines génératrices
					Nombre d'usines achetant de l'électricité pour la revendre
					Municipalités
					Nombre d'usines génératrices
					Nombre d'usines achetant de l'électricité pour la revendre
					Cités, villes et villages desservis—
					Nombre
					Population
					Ratio de population totale
					Par des usines commerciales
					Nombre
					Population
					Par des usines municipales—
					Nombre
					Population
					Par usines commerciales et municipales
					Nombre
					Population
					Par usines hydrauliques
					Nombre
					Population
					Par usines à combustible
					Nombre
					Population
					Par usines hydrauliques et à combustible
					Nombre
					Population

CENSUS OF INDUSTRY

Table 4—Capital, 1924

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Capital	628,565,093	509,507	9,000,729	9,650,794	162,812,514	333,012,019
Per cent of total for Canada.....	100.00	.08	1.43	1.54	25.90	52.98
Generation.....	362,006,304	344,889	4,621,782	5,700,080	105,147,119	185,381,756
Transmission.....	97,683,039	—	1,748,920	1,108,749	22,267,395	58,891,809
Distribution.....	116,288,676	133,172	2,207,504	2,294,968	24,549,396	57,940,490
General.....	52,587,074	31,146	422,523	546,997	10,848,604	30,707,874
Total Capital in Commercial Stations	326,554,580	439,883	4,815,713	4,804,202	156,552,616	82,928,427
Generation.....	209,227,557	301,000	1,701,032	3,088,744	102,242,693	57,717,294
Transmission.....	44,397,981	—	1,256,455	214,451	22,028,052	10,672,884
Distribution.....	49,878,413	115,550	1,589,401	1,168,113	21,829,711	9,397,432
General.....	23,050,629	23,533	268,825	332,894	10,452,160	5,140,817
Non-Generating stations.....	24,132,466	***	2,561,871	645,146	6,093,757	2,732,291
Generating stations.....	302,422,114	***	2,253,842	4,159,056	150,458,850	80,196,136
Hydraulic stations.....	296,335,283	***	747,025	1,591,478	150,410,983	80,163,284
Fuel stations.....	6,086,831	***	1,506,817	2,567,578	47,876	32,852
Total Capital in Municipal Stations	302,010,513	***	4,185,016	4,846,592	6,259,898	250,983,592
Generation.....	152,778,747	***	2,920,750	2,611,336	2,904,426	127,664,462
Transmission.....	53,285,058	***	492,465	894,298	239,343	48,219,015
Distribution.....	66,410,263	***	618,103	1,126,855	2,719,685	48,543,058
General.....	29,536,445	***	153,698	214,103	396,444	25,657,057
Non-generating stations.....	72,416,463	***	601,736	828,416	1,083,827	66,754,756
Generating stations.....	229,594,050	***	3,583,280	4,018,176	5,176,071	183,328,836
Hydraulic stations.....	210,780,860	***	3,013,944	3,732,521	3,955,553	183,163,918
Fuel stations.....	18,813,190	***	569,336	285,655	1,220,518	164,918
Total Capital in Non-generating Stations	96,548,929	***	3,163,607	1,473,562	7,177,584	69,487,047
Generation.....	3,765,919	***	658,548	170,000	2,672,253	—
Transmission.....	6,474,218	***	1,021,534	100,869	990,750	2,084,835
Distribution.....	63,241,916	***	1,353,829	1,047,165	3,039,515	48,110,564
General.....	23,066,816	***	129,696	155,528	475,036	19,291,618
Total Capital in Generating Stations	532,016,164	***	5,837,122	8,177,232	155,631,930	263,521,972
Generation.....	358,240,355	***	3,963,234	5,530,080	102,474,866	185,381,756
Transmission.....	91,208,821	***	727,386	1,007,880	21,276,645	56,507,094
Distribution.....	53,046,730	***	853,675	1,247,803	21,509,851	9,829,926
General.....	29,520,258	***	292,827	391,469	10,373,568	11,509,226
Hydraulic Stations.....	507,116,143	***	3,760,969	5,323,999	154,366,536	263,327,202
Generation.....	344,219,228	***	2,890,056	3,758,053	102,150,216	185,295,318
Transmission.....	90,840,215	***	567,712	1,007,880	21,276,645	56,806,564
Distribution.....	44,157,148	***	254,585	419,017	20,669,176	9,765,288
General.....	27,899,552	***	48,616	139,049	10,270,499	11,390,032
Fuel Stations.....	24,900,021	***	2,076,153	2,853,233	1,268,394	197,770
Generation.....	14,021,127	***	1,073,178	1,772,027	324,650	116,438
Transmission.....	368,606	***	159,674	—	—	500
Distribution.....	8,889,582	***	509,090	828,786	810,675	61,638
General.....	1,620,706	***	244,211	252,420	103,069	16,194
TOTAL CAPITAL						
Average per H.P. of Primary Power.....	221	281	329	288	170	259
Average per H.P. including Auxiliary equipment.....	208	271	237	268	165	246
Average per K.V.A. of Dyanmo Capacity..	275	336	406	379	203	327
Average per K.V.A. including Auxiliary equipment.....	260	336	283	356	197	311
Generation						
Average Cost per H.P. (including aux. equip.).....						
In All Generating Stations.....	120	181	122	158	107	137
In Hydraulic Stations.....	121	133	167	157	104	138
In Fuel Stations.....	99	195	103	176	125	72
Transmission Lines						
Average Cost per pole line mile.....	10,680	—	13,050	4,600	9,950	12,570
Distribution Lines						
Average Cost per pole line mile.....	6,610	1,570	2,730	3,450	7,690	7,300

Tableau 4—Capitaux, 1924

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
35,470,949 5.64	8,397,101 1.34	14,461,966 2.30	53,811,503 8.56	1,438,311 .23	Total des capitaux Pourcentage dans chaque province
18,562,801	5,157,724	8,611,302	27,410,716	1,068,135	Generation
4,074,048	20,466	1,525,884	7,885,015	160,663	Transmission
10,080,825	2,812,302	3,494,742	12,750,263	25,014	Distribution
2,753,275	406,609	830,038	5,765,509	184,499	Généralités
17,673,196	755,846	6,225,773	50,920,613	1,438,311	Total des capitaux dans les usines commerciales
12,495,838	514,292	4,197,987	25,900,542	1,068,135	Génération
980,670	—	1,343,530	7,741,276	160,663	Transmission
3,600,245	180,881	292,170	11,680,096	25,014	Distribution
596,443	60,673	392,086	5,598,699	184,499	Généralités
592,616	—	74,470	11,211,598	213,917	Non-productrices
17,080,580	755,846	6,151,303	39,709,015	1,224,394	Productrices
17,032,776	—	5,456,465	39,647,587	1,212,527	Hydrauliques.
47,804	755,846	694,838	61,428	11,867	A combustible
17,797,753	7,641,255	8,236,193	2,890,890	—	Total des capitaux dans les usines municipales
6,066,963	4,643,432	4,413,315	1,510,174	—	Génération
3,093,378	20,466	182,354	143,739	—	Transmission
6,480,580	2,631,421	3,202,572	1,070,167	—	Distribution
2,156,832	345,936	437,952	166,810	—	Généralités
2,466,977	23,442	35,876	621,433	—	Non-productrices
15,330,776	7,617,813	8,200,317	2,269,457	—	Productrices
***	—	***	1,829,940	—	Hydrauliques
***	7,617,813	***	439,517	—	A combustible
3,059,593	23,442	110,346	11,833,031	***	Total des capitaux dans les usines non productrices
155,000	—	16,500	65,954	***	Génération
1,152,465	—	2,410	1,121,355	***	Transmission
1,019,340	21,574	82,277	8,538,647	***	Distribution
732,788	1,868	9,159	2,107,075	***	Généralités
32,411,356	8,373,659	14,351,620	41,978,472	***	Total des capitaux dans les usines productrices
18,407,801	5,157,724	8,594,802	27,344,762	***	Génération
2,921,583	20,466	1,523,474	6,763,660	***	Transmission
9,061,485	2,790,728	3,412,465	4,211,616	***	Distribution
2,020,487	404,741	820,879	3,658,434	***	Généralités
31,880,280	—	5,693,945	41,477,527	***	Hydrauliques
18,085,698	—	3,963,513	27,024,103	***	Génération
2,921,583	—	1,335,508	6,763,660	***	Transmission
8,890,743	—	76,600	4,055,139	***	Distribution
1,982,256	—	318,394	3,634,625	***	Généralités
531,076	8,373,659	8,657,675	500,945	***	A combustible
322,103	5,157,724	4,631,259	320,659	***	Génération
—	20,466	187,966	—	***	Transmission
170,472	2,790,728	3,335,965	156,477	***	Distribution
38,231	404,741	502,485	23,809	***	Généralités
239	156	162	222	***	Moyenne par H.P. de la machinerie d'énergie primaire
200	156	158	200	***	Moyenne par H.P. y compris machinerie auxiliaire
302	182	208	305	***	Moyenne par K.V.A. de la capacité des dynamos
247	182	202	273	***	Moyenne par K.V.A. y compris machinerie auxiliaire
					Génération
105	96	94	102	***	Moyenne par H.P. y compris machinerie auxiliaire
104	110	—	102	***	Dans les Usines Productrices
121	96	83	117	***	Dans les usines hydrauliques
					Dans les usines à combustible
					Lignes de transmission
9,390	2,050	6,660	7,070	***	Moyenne par lignes sur poteaux
					Lignes de distribution
9,260	4,080	4,250	5,800	***	Moyenne par lignes sur poteau

Table 5—Revenue, 1924

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
GROSS REVENUES						
Gross Revenue from Sale of Electric Energy	95,169,768	136,905	2,351,449	1,559,307	25,490,596	46,681,024
Per cent of total for Canada.....	100.00	.14	2.47	1.64	26.79	49.05
For lighting purposes.....	36,011,117	117,785	1,461,541	804,417	371,246	14,549,707
For all other purposes.....	59,158,651	19,120	889,908	754,890	17,119,350	32,131,317
Gross Revenue of Commercial Stations....	47,529,216	109,151	1,559,262	978,532	24,120,323	9,824,911
For lighting purposes.....	15,463,296	92,699	1,056,815	572,110	7,329,080	1,700,907
For all other purposes.....	32,065,920	16,452	502,447	406,422	16,791,243	8,124,004
Non Generating.....	7,535,646	671	878,438	253,660	1,610,793	1,410,614
Generating.....	39,993,570	108,480	680,824	724,872	22,509,530	8,414,297
Hydraulic.....	38,276,712	11,883	124,707	308,445	22,496,573	8,399,197
Fuel.....	1,716,858	96,597	556,117	416,427	12,957	15,100
Gross Revenue of Municipal Stations.....	47,649,552	***	792,187	580,775	1,370,273	36,856,113
For lighting purposes.....	20,547,821	***	404,726	232,307	1,042,166	12,848,800
For all other purposes.....	27,092,731	***	387,461	348,468	328,107	24,007,313
Non Generating.....	22,031,681	***	244,390	163,278	378,547	20,561,089
Generating.....	25,608,871	***	547,797	417,497	991,726	16,295,024
Hydraulic.....	19,727,456	***	346,238	326,106	641,153	16,215,119
Fuel.....	5,881,415	***	201,559	91,391	350,573	79,905
Gross Revenue of Non-generating Stations	29,567,327	***	1,122,828	416,938	1,989,340	21,971,703
For lighting purposes.....	17,299,507	***	786,157	307,562	783,708	12,486,218
For all other purposes.....	12,267,820	***	336,671	109,376	1,205,632	9,485,485
Gross Revenue of Generating Stations....	65,602,441	***	1,228,621	1,142,369	23,501,256	24,709,321
For lighting purposes.....	18,711,610	***	496,855	232,307	7,587,538	2,063,489
For all other purposes.....	46,890,831	***	553,237	645,514	15,913,718	22,645,832
Gross Revenue of Hydraulic Stations.....	58,004,168	***	470,945	634,551	23,137,726	24,614,316
For lighting purposes.....	13,123,220	***	143,136	131,310	7,276,274	1,994,249
For all other purposes.....	44,880,948	***	327,809	503,241	15,861,452	22,620,067
Gross Revenue of Fuel Stations.....	7,598,273	***	757,676	507,818	363,530	95,005
For lighting purposes.....	5,588,390	***	532,248	365,545	311,264	69,240
For all other purposes.....	2,009,883	***	225,428	142,273	52,266	25,765
NET REVENUES						
*Net revenue from sale of electric energy..	74,616,863	***	1,870,555	1,231,041	21,074,832	33,927,618
For lighting purposes.....	36,011,117	***	1,461,541	804,417	8,371,246	14,549,707
For power purposes.....	38,605,746	***	409,014	426,624	12,703,586	19,377,911
Net revenue of commercial stations.....	39,033,665	***	1,178,956	829,652	20,011,968	8,077,031
Net revenue of municipal stations.....	35,583,198	***	691,599	401,389	1,062,864	25,850,587
Net revenue of non-generating stations..	14,754,948	***	693,904	156,786	953,216	10,230,035
Net revenue of generating stations.....	59,861,915	***	1,176,651	1,074,255	20,121,616	23,697,583
Average net revenue per H.P. of primary power	26.19	75.41	68.44	36.71	22.03	26.37
Average net revenue per H.P. in main and auxiliary plants	24.73	72.76	49.33	34.14	21.36	25.08
Average net revenue per K.V.A. of dynamo capacity	32.70	90.03	84.43	48.29	26.33	33.36
Average net revenue per K.V.A. in main and auxiliary plants	30.85	90.03	58.90	45.36	25.56	31.72
Average net revenue per K.W. hours of all stations (cents)	.80	8.76	4.78	3.08	.57	.79

Tableau 5—Recettes, 1924

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
RECETTES BRUTES					
4,513,452	2,701,931	3,305,651	8,327,366	102,087	Recettes brutes provenant de la vente d'électricité
4-74	2-84	3-47	8-75	-11	Pourcentage dans chaque province
2,823,303	1,972,323	2,157,582	3,697,241	55,972	Pour l'éclairage
1,690,149	729,608	1,148,069	4,630,125	46,115	Pour tous autres usages
2,268,291	317,265	831,972	7,417,422	102,087	Recettes brutes des usines commerciales
959,214	309,845	400,944	2,985,710	55,972	Pour l'éclairage
1,309,077	7,420	431,028	4,431,712	46,115	Pour tous autres usages
136,852	—	67,685	3,144,835	***	Non productrices
2,131,439	317,265	764,287	4,272,587	***	Productrices
2,106,891	—	527,191	4,239,893	***	Hydrauliques
24,548	317,265	237,096	32,694	***	A combustible
2,245,161	2,384,666	2,473,679	999,944	—	Recettes brutes des usines municipales
1,864,089	1,662,478	1,756,638	711,531	—	Pour l'éclairage
381,072	722,188	717,041	198,413	—	Pour tous autres usages
287,458	21,438	33,718	341,763	—	Non productrices
1,957,703	2,363,228	2,439,961	568,181	—	Productrices
***	***	***	413,670	—	Hydrauliques
***	2,363,228	***	154,511	—	A combustible
424,310	21,438	101,493	3,486,598	***	Recettes brutes des usines non génératrices
340,649	19,602	88,301	2,456,382	***	Pour l'éclairage
83,661	1,836	13,102	1,030,216	***	Pour tous autres usages
4,089,142	2,680,493	3,204,248	4,849,768	***	Recettes brutes des usines génératrices
2,432,654	1,952,721	2,069,281	1,240,859	***	Pour l'éclairage
1,606,488	727,772	1,134,967	3,599,909	***	Pour tous autres usages
3,867,064	—	552,188	4,653,563	***	Hydrauliques
2,308,187	—	167,692	1,073,618	***	Pour l'éclairage
1,558,877	—	384,496	3,579,945	***	Pour tous autres usages
222,078	2,680,493	2,652,060	187,205	***	A combustible
174,467	1,952,721	1,901,589	167,241	***	Pour l'éclairage
47,611	727,772	750,471	19,964	***	Pour tous autres usages
RECETTES NETTES					
4,076,618	2,689,547	3,024,103	6,497,751	***	Recettes nettes provenant de vente d'électricité
2,823,303	1,972,323	2,157,582	3,697,241	***	Pour l'éclairage
1,253,315	717,224	866,521	2,800,510	***	Pour force motive
1,892,724	317,265	811,857	5,717,168	***	Recettes nettes des usines commerciales
2,183,894	2,372,282	2,212,246	780,583	***	Recettes nettes des usines municipales
292,326	9,054	61,656	2,339,396	***	Recettes nettes des usines non-génératrices
3,784,292	2,680,493	2,962,447	4,158,355	***	Recettes nettes des usines génératrices
27-49	49-83	33-84	26-85	***	Moy. des recettes nette, par h.p. de machinerie primaire
22-97	49-83	32-97	24-17	***	Moy. des recettes nettes par h.p. des usines principales et auxiliaires
34-67	58-39	43-53	36-85	***	Moy. des recettes nettes par k.v.a de la capac. des dynamos
28-43	58-39	42-25	32-99	***	Moy. des recettes nettes par k.v.a. des usines principales et auxiliaires
-94	4-54	2-49	1-07	***	Moyenne des recettes nettes par k.w. heure (cents) De toutes les usines

CENSUS OF INDUSTRY

Table 6—Expenses, 1924

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
*Total Expenses.....	40,887,779	61,844	1,188,523	828,974	7,493,323	22,608,738
Per cent of total for Canada.....	100-00	.15	2-90	2-03	18-33	55-29
Salaries and wages.....	17,946,584	29,320	494,924	325,062	2,962,255	9,649,570
Fuel.....	2,388,290	32,188	212,705	175,646	115,304	205,762
Cost of power.....	20,552,905	336	480,894	328,266	4,415,764	12,753,406
*Total for Commercial Stations.....	16,777,557	48,410	864,220	516,795	6,800,713	3,679,201
Salaries and wages.....	7,296,133	23,639	331,352	215,893	2,681,712	1,753,350
Fuel.....	985,873	24,435	152,562	152,022	10,646	177,971
Cost of power.....	8,495,551	336	380,306	148,880	4,108,355	1,747,880
Non-generating Stations.....	4,768,326	***	486,699	168,175	999,625	1,202,431
Generating Stations.....	12,009,231	***	377,521	348,620	5,801,088	2,476,770
Hydraulic Stations.....	10,945,731	***	35,922	82,433	5,793,467	2,468,949
Fuel Stations.....	1,063,500	***	341,599	266,187	7,621	7,821
*Total for Municipal Stations.....	24,110,222	324,303	312,179	692,610	18,929,537	18,929,537
Salaries and wages.....	10,650,451	***	163,572	109,169	280,543	7,896,220
Fuel.....	1,402,417	***	60,143	23,624	104,658	27,791
Cost of power.....	12,057,354	***	100,588	179,386	307,409	11,005,536
Non-generating stations.....	15,921,196	***	130,945	202,204	240,723	15,013,070
Generating Stations.....	8,189,026	***	193,358	109,975	451,887	3,916,467
Hydraulic Stations.....	5,160,670	***	83,284	67,879	160,709	3,862,644
Fuel Stations.....	3,028,356	***	110,074	42,096	291,178	53,823
*Total Expenses for Non-generating Stations.....	20,689,522	***	617,644	370,379	1,240,348	16,215,501
Salaries and wages.....	5,867,122	***	179,468	109,482	204,224	4,473,833
Fuel.....	10,021	***	9,252	745		
Cost of power.....	14,812,379	***	428,924	260,152	1,036,124	11,741,668
*Total Expenses for Generating Stations.....	20,198,257	***	570,879	458,595	6,252,975	6,393,237
Salaries and wages.....	12,079,462	***	315,456	215,580	2,758,031	5,175,737
Fuel.....	2,378,269	***	203,453	174,901	115,304	205,762
Cost of power.....	5,740,526	***	51,970	68,114	3,379,640	1,011,738
Hydraulic Stations.....	16,106,401	***	119,206	150,312	5,954,176	6,331,593
Fuel Stations.....	4,091,856	***	451,673	308,283	298,799	61,644

*These are not the total operating expenses but the totals of only the three accounts—Wages—Fuel and Power.

Table 7—Employees, 1924

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Persons Employed.....	12,956	29	449	277	2,833	6,429
Per cent of total for Canada.....	100-00	.22	3-47	2-14	21-87	49-62
Officers, clerks, other salaried employees, etc.....	5,559	11	166	115	1,310	2,811
Employees on wages.....	7,397	18	283	162	1,523	3,618
Total Employees in Commercial Stations.....	5,849	22	302	186	2,592	1,320
Officers, clerks, other salaried employees, etc.....	2,260	9	114	56	1,216	333
Employees on wages.....	3,589	13	188	130	1,376	987
Non-generating.....	835	—	115	37	184	68
Generating.....	5,014	22	187	149	2,408	1,252
Hydraulic.....	4,573	6	39	51	2,404	1,248
Fuel.....	441	16	148	98	4	4
Total Employees in Municipal Stations.....	7,107	7	147	91	241	5,109
Officers, clerks, other salaried employees, etc.....	3,299	2	52	59	94	2,478
Employees on wages.....	3,808	5	95	32	147	2,631
Non-generating.....	3,491	—	28	52	47	3,270
Generating.....	3,616	7	119	39	194	1,839
Hydraulic.....	2,680	—	72	24	111	1,816
Fuel.....	936	7	47	15	83	23
Total Employees in Non-Generating Stations.....	4,326	—	143	89	231	3,338
Officers, clerks, other salaried employees, etc.....	2,068	—	76	51	89	1,555
Employees on wages.....	2,258	—	67	38	142	1,783
Total Employees in Generating Stations.....	8,630	29	306	188	2,602	3,091
Officers, clerks, other salaried employees, etc.....	3,491	11	90	64	1,221	1,256
Employees on wages.....	5,139	18	216	124	1,381	1,835
Hydraulic.....	7,253	6	111	75	2,515	3,064
Fuel.....	1,377	23	195	113	87	27

CENTRAL ELECTRIC STATIONS

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Tableau 6—Dépenses, 1924

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
2,076,441 5-08	1,360,141 3-33	1,567,189 3-83	3,650,281 8-93	52,325 -13	Total des dépenses
1,389,982	553,536	803,517	1,701,452	33,966	Pourcentage dans chaque province
249,625	794,221	482,124	116,214	4,501	Traitements, appointements et salaires
436,834	12,384	281,548	1,829,615	13,858	Combustible
1,010,164	190,069	374,552	3,241,108	55,325	Total pour les usines commerciales
456,637	74,444	242,033	1,483,107	33,966	Traitements, appointements et salaires
177,960	115,625	112,404	57,747	4,501	Combustible
375,567	-	20,115	1,700,254	13,858	Achat d'énergie électrique.
80,157	-	33,127	1,779,575	***	Usines non productrices
930,007	190,069	341,425	1,461,533	***	Usines productrices
907,961	-	182,089	1,447,723	***	Usines hydrauliques
22,046	190,069	159,336	13,810	***	Usines à combustible
1,066,277	1,170,072	1,192,637	409,173	-	Total pour les usines municipales
9 33,345	479,092	561,484	221,345	-	Traitements, appointements et salaires
71,665	678,596	369,720	58,467	-	Combustible
61,267	12,384	261,433	129,361	-	Achat d'énergie électrique
119,210	14,574	25,478	174,992	-	Usines non productrices
947,067	1,155,498	1,167,159	234,181	-	Usines productrices
***	***	***	147,706	-	Usines hydrauliques
***	1,155,498	***	86,475	-	Usines à combustible
199,367	14,574	58,605	1,954,567	***	Total des dépenses pour les usines non-productrices
67,383	2,190	18,834	807,365	***	Traitements, appointements et salaires
131,984	12,384	39,747	1,147,202	***	Combustible
1,877,074	1,345,567	1,508,584	1,695,714	***	Total des dépenses pour les usines productrices
1,322,599	551,346	784,683	897,087	***	Traitements, appointements et salaires
249,625	794,221	482,100	116,214	***	Combustible
304,850	-	241,801	682,413	***	Achat d'énergie électrique
1,740,106	-	188,392	1,595,429	***	Usines hydrauliques
136,968	1,345,567	1,320,192	100,285	***	Usines à combustible

*Ces totaux ne représentent pas les dépenses d'exploitation, mais les dépenses découlant des traitements et salaires, combustible et de la force motrice.

Tableau 7—Personnel, 1924

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
959 7-40	410 3-16	549 4-24	1,005 7-76	16 -12	Total du personnel occupé
380	173	199	389	5	Pourcentage dans chaque province
579	237	350	616	11	Administrateurs, directeurs, commis et tous employés des bureaux
314	79	173	845	16	Personnel des usines commerciales
114	44	44	325	5	Administrateurs, directeurs, commis et tous employés des bureaux
200	35	129	520	5	Ouvriers et journaliers
6	-	21	402	2	Non productrices
308	79	152	443	14	Productrices
296	-	85	433	11	Hydrauliques
12	79	67	10	3	A combustible
645	331	376	160	-	Personnel des usines municipales
266	129	155	64	-	Administrateurs, directeurs, commis et tous employés des bureaux
379	202	221	96	-	Ouvriers et journaliers
42	5	7	40	-	Non productrices
603	326	369	120	-	Productrices
563	-	4	90	-	Hydrauliques
40	326	365	30	-	A combustible
48	5	28	442	2	Total du personnel des usines non productrices
18	3	13	262	1	Administrateurs, directeurs, commis et tous employés des bureaux
30	2	15	180	1	Ouvriers et journaliers
911	405	521	563	11	Total du personnel des usines productrices
362	170	186	127	4	Administrateurs, directeurs, commis et tous employés des bureaux
549	235	335	436	10	Ouvriers et journaliers
859	-	89	523	11	Hydrauliques
521	405	432	40	3	A combustible

CENSUS OF INDUSTRY

Table 8—Number of Customers, 1924

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Number of Customers	1,200,950	3,717	40,315	27,759	321,494	507,038
Per cent of total for Canada.....	100.00	.31	3.36	2.31	26.77	42.22
Domestic light.....	988,480	3,061	31,667	21,955	271,475	416,376
Commercial light.....	176,444	586	7,345	5,040	40,778	76,575
Power.....	36,026	70	1,303	764	9,241	14,087
Total Number of Customers of Commercial Stations	521,064	3,073	27,642	16,809	282,570	58,057
Domestic light.....	422,461	2,616	21,511	12,907	236,619	42,802
Commercial light.....	81,700	391	5,114	3,314	37,456	12,952
Power.....	16,900	66	1,017	588	8,495	2,303
Non-generating.....	123,635	32	15,737	5,536	20,308	9,033
Generating.....	397,429	3,041	11,905	11,273	262,262	49,024
Hydraulic.....	365,847	660	2,221	2,992	261,768	48,807
Fuel.....	31,582	2,372	9,684	8,281	494	217
Total Number of Customers of Municipal Stations	679,886	644	12,673	10,950	38,924	448,981
Domestic light.....	566,016	445	10,156	9,048	34,856	373,574
Commercial light.....	94,744	195	2,231	1,726	3,322	63,623
Power.....	19,126	4	286	176	746	11,784
Non-generating.....	467,109	—	4,968	7,010	12,914	427,117
Generating.....	212,777	644	7,705	3,940	26,010	21,864
Hydraulic.....	104,672	—	2,814	1,867	16,857	20,502
Fuel.....	108,105	644	4,891	2,073	9,153	1,362
Total Number of Customers of Non-Generating Stations	590,744	32	20,705	12,546	33,222	436,150
Domestic light.....	485,730	27	15,996	10,342	28,803	359,964
Commercial light.....	88,785	4	3,806	1,974	3,435	64,655
Power.....	16,229	1	903	230	984	11,531
Total Number of Customers of Generating Stations	610,206	3,685	19,610	15,213	288,272	70,888
Hydraulic Stations.....	470,519	669	5,035	4,859	278,625	69,309
Domestic light.....	391,078	517	4,085	4,095	234,006	55,177
Commercial light.....	64,201	137	847	670	36,437	11,613
Power.....	15,240	15	103	94	8,182	2,519
Fuel Stations.....	139,687	3,016	14,575	10,354	9,647	1,579
Domestic light.....	111,672	2,517	11,586	7,518	8,666	1,235
Commercial light.....	23,458	445	2,692	2,396	906	307
Power.....	4,557	54	297	440	75	37
Average Number of Domestic Light Customers per 100 of Population	10.71	3.49	5.00	5.50	10.95	13.60

Table 9—Pole Line Mileage, 1924

Pole Line Mileage	26,654	85	943	907	5,433	12,629
Per cent of total for Canada.....	100.00	.32	3.54	3.40	20.38	47.38
For transmission.....	9,147	—	134	241	2,239	4,686
For distribution.....	17,507	85	809	666	3,194	7,943
Total Pole Line Mileage—Commercial Stations	12,102	72	616	484	4,901	1,954
Non-generating.....	2,838	9	265	144	709	183
Generating.....	9,264	63	351	340	4,192	1,771
Hydraulic.....	8,439	38	117	109	4,179	1,764
Fuel.....	825	25	234	231	13	7
Total Pole Line Mileage—Municipal Stations	14,552	13	327	423	532	10,675
Non-generating.....	6,476	—	117	115	228	5,548
Generating.....	8,076	13	210	308	304	5,127
Hydraulic.....	6,470	—	115	263	254	5,099
Fuel.....	1,606	13	95	45	50	28
Total Pole Line Mileage—Non-Generating Stations	9,314	9	382	259	937	5,731
Total Pole Line Mileage—Generating Stations	17,340	76	561	648	4,496	6,898
Hydraulic stations.....	14,909	38	232	372	4,433	6,863
Fuel stations.....	2,431	38	329	276	63	35

CENTRAL ELECTRIC STATIONS

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Tableau 8—Abonnés, 1924

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
32,511 7.70	41,807 3.48	55,488 4.62	110,341 9.19	480 0.04	Nombre d'abonnés Pourcentage du total pour le Canada
76,260	32,219	44,904	90,209	354	Eclairage, particuliers
12,678	7,962	8,575	16,791	114	Eclairage, commerçants
3,573	1,626	2,009	3,341	12	Force motrice
30,084	5,408	7,639	89,302	480	Nombre total des abonnés des usines commerciales
23,338	3,811	5,729	72,777	354	Eclairage, particuliers
5,147	1,567	1,694	13,951	114	Eclairage, commerçants
1,599	30	216	2,574	12	Force motrice
4,824	—	1,412	66,411	342	Non productrices
25,260	5,408	6,227	22,891	138	Productrices
24,985	—	2,087	22,312	6	Hydrauliques
275	5,408	4,140	579	132	A combustible
62,427	36,399	47,849	21,039	—	Nombre total des abonnés des usines municipales
52,922	28,408	39,175	17,432	—	Eclairage, particuliers
7,531	6,395	6,881	2,840	—	Eclairage, commerçants
1,974	1,596	1,793	767	—	Force motrice
3,814	462	925	9,899	—	Non productrices
58,613	35,937	46,924	11,140	—	Productrices
54,962	—	558	7,112	—	Hydrauliques
3,651	35,937	46,366	4,028	—	A combustible
8,638	462	2,337	76,310	342	Nombre total des abonnés des usines non productrices
7,428	373	1,964	60,588	245	Eclairage, particuliers
985	79	345	13,414	88	Eclairage, commerçants
225	10	28	2,308	9	Force motrice
83,873	41,345	53,151	34,031	138	Nombre total des abonnés des usines productrices
79,947	—	2,645	29,424	6	Hydrauliques
65,875	—	1,588	25,733	2	Eclairage, particuliers
10,833	—	932	2,731	1	Eclairage, commerçants
3,239	—	125	960	3	Force motrice
3,926	41,345	50,506	4,607	132	A combustible
2,957	31,846	41,352	3,888	107	Eclairage, particuliers
860	7,883	7,298	646	25	Eclairage, commerçants
109	1,616	1,856	73	—	Force motrice
11.79	3.95	7.05	16.31	9.97	Moyenne des consommateurs d'éclairage électrique par 100 habitants

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1924

1,523 5.71	700 2.63	1,052 3.95	3,313 12.43	69 26	Longueur totale en milles des lignes sur poteaux Pourcentage dans chaque province
434	10	229	1,115	59	Pour la transmission
1,089	690	823	2,198	10	Pour la distribution
725	167	344	2,770	69	Pour le service des usines commerciales
143	—	32	1,347	6	Non productrices
582	167	312	1,423	63	Productrices
567	—	199	1,405	61	Hydrauliques
15	167	113	18	2	A combustible
798	533	708	543	—	Pour le service des usines municipales
217	14	20	217	—	Non productrices
581	519	688	326	—	Productrices
510	—	15	214	—	Hydrauliques
71	519	673	112	—	A combustible
360	14	52	1,564	6	Pour le service des usines non productrices
1,163	686	1,000	1,749	63	Pour le service des usines productrices
1,077	—	214	1,619	61	Hydrauliques
86	686	786	130	2	A combustible

Table 10—Equipment, 1924
TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power.....H.P.....	3,017,552	1,877	37,922	36,058	986,543	1,352,864
Per cent of total for Canada.....	100.00	0.06	1.26	1.20	32.69	44.8
Water wheels and turbines.....No.....	667	8	27	19	222	297
Total capacity.....H.P.....	2,707,957	279	16,944	23,485	953,987	1,284,847
Steam engines.....No.....	196	3	32	18	17	20
Total capacity.....H.P.....	56,787	560	8,973	6,045	6,785	7,230
Steam turbines.....No.....	74	—	10	5	6	9
Total capacity.....H.P.....	234,567	—	11,545	5,075	25,500	60,250
Gas and oil engines.....No.....	282	7	6	10	8	11
Total capacity.....H.P.....	18,241	1,038	460	1,453	271	537
Total Dynamo Capacity.....K.V.A.....	2,418,501	1,517	31,756	27,142	824,682	1,069,538
Per cent of total for Canada.....	100.00	0.06	1.31	1.12	34.10	44.22
Dynamos, A.C.....No.....	959	14	69	44	225	299
Capacity.....K.V.A.....	2,408,291	1,509	30,401	26,359	823,398	1,067,497
Dynamos, D.C.....No.....	212	1	11	5	12	21
Capacity.....K.W.....	10,510	8	1,355	783	1,314	2,041
Commercial Stations						
Total Primary Power.....H.P.....	1,818,450	1,527	19,795	22,633	964,763	410,414
Water wheels and turbines.....No.....	482	8	11	13	198	183
Total capacity.....H.P.....	1,673,298	279	2,595	11,575	935,257	373,457
Steam engines.....No.....	96	2	21	15	9	8
Total capacity.....H.P.....	27,149	410	6,210	5,630	3,945	1,360
Steam turbines.....No.....	36	—	7	5	6	4
Total capacity.....H.P.....	112,719	—	10,800	5,075	25,500	35,500
Gas and oil engines.....No.....	180	5	3	4	4	4
Total capacity.....H.P.....	5,284	838	190	353	61	97
Total Dynamo Capacity.....K.V.A.....	1,498,316	1,177	16,805	16,662	808,463	362,596
Dynamos, A.C.....No.....	570	11	36	29	191	172
Capacity.....K.V.A.....	1,492,900	1,169	15,975	15,935	807,161	361,827
Dynamos, D.C.....No.....	162	1	8	4	10	15
Capacity.....K.W.....	5,416	8	830	727	1,302	769
Municipal Stations						
Total Primary Power.....H.P.....	1,199,102	350	18,127	13,425	21,780	942,450
Water wheels and turbines.....No.....	185	—	16	6	24	114
Total capacity.....H.P.....	1,034,659	—	14,349	11,910	18,730	911,390
Steam engines.....No.....	100	1	11	3	8	12
Total capacity.....H.P.....	29,638	150	2,763	415	2,840	5,870
Steam turbines.....No.....	38	—	3	—	—	5
Total capacity.....H.P.....	121,848	—	745	—	—	24,750
Gas and oil engines.....No.....	122	2	3	6	4	7
Total capacity.....H.P.....	12,957	200	270	1,100	210	440
Total Dynamo Capacity.....K.V.A.....	920,485	340	14,951	10,480	16,219	706,942
Dynamos, A.C.....No.....	389	3	33	15	34	127
Capacity.....K.V.A.....	915,391	340	14,426	10,424	16,207	705,670
Dynamos, D.C.....No.....	50	—	3	1	2	6
Capacity.....K.W.....	5,094	—	525	56	12	1,272

Table 11—Auxiliary Plant Equipment, 1924

Total Primary Power.....H.P.....	168,102	66	10,590	2,525	29,960	66,390
Per cent of total for Canada.....	100.00	0.04	6.30	1.50	17.82	39.49
Steam reciprocating engines.....No.....	49	1	11	7	8	13
Total capacity.....H.P.....	22,911	60	3,810	2,225	4,295	6,140
Steam turbines.....No.....	31	—	2	—	6	9
Total capacity.....H.P.....	143,950	—	6,700	—	25,500	60,250
Gas and oil engines.....No.....	11	1	1	2	2	—
Total capacity.....H.P.....	1,241	6	80	300	165	—
Total Secondary Power.....K.V.A.....	136,755	—	9,600	1,647	24,240	52,578
Commercial Stations						
Total Primary Power.....H.P.....	116,657	66	9,165	2,150	29,180	36,390
Steam reciprocating engines.....No.....	29	1	6	5	6	8
Total capacity.....H.P.....	13,686	60	2,325	1,850	3,655	890
Steam turbines.....No.....	21	—	2	—	6	4
Total capacity.....H.P.....	102,460	—	6,700	—	25,500	35,500
Gas and oil engines.....No.....	6	1	1	2	1	—
Total capacity.....H.P.....	511	6	80	300	25	—
Total Secondary Power.....K.V.A.....	96,845	—	8,162	1,425	24,165	31,328
Municipal Stations						
Total Primary Power.....H.P.....	51,445	—	1,485	375	780	30,000
Steam reciprocating engines.....No.....	20	—	5	2	2	—
Total capacity.....H.P.....	9,225	—	1,485	375	640	5,250
Steam turbines.....No.....	10	—	—	—	—	—
Total capacity.....H.P.....	41,490	—	—	—	—	24,750
Gas and oil engines.....No.....	5	—	—	—	1	—
Total capacity.....H.P.....	730	—	—	—	140	—
Total Secondary Power.....K.V.A.....	39,910	—	1,438	222	75	21,250

Tableau 10—Machinerie, 1924

TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
177,483	53,978	91,718	268,889	10,220	Total, force motrice primaire..... H.P.
5-88	1-79	3-04	8-91	0-34	Pourcentage dans chaque province
21	—	16	55	2	Turbines et roues hydrauliques..... Nomb.
145,625	—	33,520	239,270	10,000	Capacité totale..... H.P.
20	19	52	14	1	Machines à vapeur..... Nomb.
5,831	4,736	14,348	2,219	60	Capacité totale..... H.P.
6	14	14	8	1	Turbines à vapeur..... Nomb.
24,840	40,047	41,650	25,500	160	Capacité totale..... H.P.
19	162	47	12	—	Moteurs à gaz et à pétrole..... Nomb.
1,187	9,195	2,200	1,900	—	Capacité totale..... H.P.
143,375	46,062	71,568	196,981	6,150	Machinerie développant la force motrice secondaire
5-93	1-90	2-96	8-14	0-26	Pourcentage dans chaque province
50	85	83	87	3	Dynamos, C.A..... Nomb.
143,091	44,726	68,549	196,641	6,150	Capacité totale..... K.V.A.
14	101	40	5	2	Dynamos, C.D..... Nomb.
284	1,336	3,019	340	30	Capacité totale..... K.W.
Usines commerciales					
92,064	3,655	39,520	253,859	10,220	Total force motrice primaire..... H.P.
9	—	14	44	2	Turbines et roues hydrauliques..... Nomb.
78,400	—	32,560	229,175	10,000	Capacité totale..... H.P.
8	7	17	8	1	Machines à vapeur..... Nomb.
3,501	759	4,180	1,094	60	Capacité totale..... H.P.
3	—	2	7	1	Turbines à vapeur..... Nomb.
10,100	84	2,000	23,500	160	Capacité totale..... H.P.
4	99	34	3	—	Moteurs à gaz et à pétrole..... Nomb.
63	2,812	780	90	—	Capacité totale..... H.P.
69,813	2,272	27,747	186,601	6,150	Machinerie développant la force motrice secondaire
16	21	33	58	3	Dynamos, C.A..... Nomb.
69,675	1,199	27,548	186,261	6,150	Capacité totale..... K.V.A.
8	80	29	5	2	Dynamos, C.D..... Nomb.
138	1,073	199	340	30	Capacité totale..... K.W.
Usines municipales					
85,419	50,323	52,198	15,030	—	Total force motrice primaire..... H.P.
12	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
67,225	—	960	10,095	—	Capacité totale..... H.P.
12	12	35	6	—	Machines à vapeur..... Nomb.
2,330	3,977	10,168	1,125	—	Capacité totale..... H.P.
3	13	12	2	—	Turbines à vapeur..... Nomb.
14,740	39,963	39,650	2,000	—	Capacité totale..... H.P.
1	63	13	9	—	Moteurs à gaz et à pétrole..... Nomb.
1,124	6,383	1,420	1,810	—	Capacité totale..... H.P.
73,562	43,790	43,821	10,380	—	Machinerie développant la force motrice secondaire
34	64	50	29	—	Dynamos, C.A..... Nomb.
73,416	43,527	41,001	10,380	—	Capacité totale..... K.V.A.
6	21	11	—	—	Dynamos, C.D..... Nomb.
146	263	2,820	—	—	Capacité totale..... K.W.

Tableau 11—Machines des usines auxiliaires, 1924

29,186	—	2,350	26,875	160	Total, force motrice primaire..... H.P.
17-36	—	1-40	15-99	0-10	Pourcentage dans chaque province
5	—	2	3	—	Machines à vapeur..... Nomb.
4,106	—	1,250	1,025	—	Capacité totale..... H.P.
6	—	1	9	1	Turbines à vapeur..... Nomb.
24,840	—	1,000	25,500	160	Capacité totale..... H.P.
2	—	1	2	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	100	350	—	Capacité totale..... H.P.
25,775	—	2,100	30,665	150	Machinerie développant la force motrice secondaire
Usines commerciales					
13,306	—	2,350	23,950	160	Total force motrice primaire..... H.P.
3	—	2	1	—	Machines à vapeur..... Nomb.
3,206	—	1,250	450	—	Capacité totale..... H.P.
3	—	1	7	1	Turbines à vapeur..... Nomb.
10,100	—	1,000	23,500	160	Capacité totale..... H.P.
—	—	1	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	—	100	—	—	Capacité totale..... H.P.
11,250	—	2,100	18,265	150	Machinerie développant la force motrice secondaire
Usines municipales					
15,880	—	—	2,925	—	Total force motrice primaire..... H.P.
2	—	—	2	—	Machines à vapeur..... Nomb.
900	—	—	575	—	Capacité totale..... H.P.
3	—	—	2	—	Turbines à vapeur..... Nomb.
14,740	—	—	2,000	—	Capacité totale..... H.P.
2	—	—	2	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	350	—	Capacité totale..... H.P.
14,525	—	—	2,400	—	Machinerie développant la force motrice secondaire

Table 12—Main Plant Equipment, 1924

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.....	2,849,450	1,811	27,332	33,533	956,583	1,286,474
Per cent of total for Canada.....	100.00	0.06	.96	1.18	33.57	45.14
Water wheels and turbines..... No.....	667	8	27	19	222	297
Total Capacity..... H.P.....	2,707,957	279	16,944	23,485	953,987	1,284,847
Steam reciprocating engines..... No.....	147	2	21	11	9	8
Total Capacity..... H.P.....	33,876	500	5,163	3,820	2,490	1,090
Steam turbines..... No.....	40	—	8	5	—	—
Total Capacity..... H.P.....	90,617	—	4,845	5,075	6	11
Gas and oil engines..... No.....	271	6	5	8	—	—
Total Capacity..... H.P.....	17,000	1,032	380	1,153	106	537
Total Dyanmo Capacity..... K.V.A.....	2,282,046	1,517	22,156	25,495	800,442	1,016,960
Per cent of total for Canada.....	100.00	0.07	.97	1.12	35.08	44.56
Dynamos, A.C..... No.....	881	14	56	36	214	286
Total Capacity..... K.V.A.....	2,273,461	1,509	21,326	24,712	799,128	1,016,319
Dynamos, D.C..... No.....	206	1	8	5	12	18
Total Capacity..... K.W.....	8,585	8	830	783	1,314	641
Commercial Stations						
Total Primary Power..... H.P.....	1,701,793	1,461	10,690	20,483	935,583	374,024
Per cent of total for Canada.....	100.00	0.09	0.63	1.20	54.98	21.98
Water wheels and Turbines..... No.....	482	8	11	13	198	183
Total Capacity..... H.P.....	1,673,298	279	2,505	11,575	935,257	373,457
Steam reciprocating engines..... No.....	67	1	15	10	3	3
Total Capacity..... H.P.....	13,463	350	3,885	3,780	290	470
Steam turbines..... No.....	12	—	5	5	—	—
Total Capacity..... H.P.....	10,259	—	4,100	5,075	—	—
Gas and oil engines..... No.....	154	4	2	2	3	4
Total Capacity..... H.P.....	4,773	832	110	53	36	97
Total Dyanmo Capacity..... K.V.A.....	1,401,471	1,177	8,643	15,237	784,298	331,268
Per cent of total for Canada.....	100.00	0.08	0.62	1.09	55.96	23.64
Dynamos, A.C..... No.....	520	11	27	23	181	166
Total Capacity..... K.V.A.....	1,396,205	1,169	7,813	14,510	782,996	330,649
Dynamos, D.C..... No.....	161	1	8	4	10	14
Total Capacity..... K.W.....	5,266	8	830	727	1,302	619
Municipal Stations						
Total Primary Power..... H.P.....	1,147,657	350	16,642	13,050	21,000	912,450
Per cent of total for Canada.....	100.00	0.03	1.45	1.14	1.83	79.51
Water wheels and turbines..... No.....	185	—	16	6	24	114
Total Capacity..... H.P.....	1,034,659	—	14,349	11,910	18,730	911,390
Steam reciprocating engines..... No.....	80	1	6	1	6	5
Total Capacity..... H.P.....	20,413	150	1,278	40	2,200	620
Steam turbines..... No.....	28	—	3	—	—	—
Total Capacity..... H.P.....	80,358	—	745	—	—	—
Gas and oil engines..... No.....	117	2	3	6	3	7
Total Capacity..... H.P.....	12,227	200	270	1,100	70	440
Total Dyanmo Capacity..... K.V.A.....	880,575	340	13,513	10,253	16,144	685,692
Per cent of total for Canada.....	100.00	0.04	1.53	1.17	1.83	77.87
Dynamos, A.C..... No.....	361	3	29	13	33	121
Total Capacity..... K.V.A.....	877,256	340	13,513	10,202	16,132	685,670
Dynamos, D.C..... No.....	45	—	—	1	2	4
Total Capacity..... K.W.....	3,319	—	—	56	12	22
Hydraulic Stations						
Total Dyanmo Capacity..... K.V.A.....	2,166,701	332	14,385	18,513	798,615	1,015,982
Per cent of total for Canada.....	100.00	0.02	0.66	0.85	36.86	46.89
Dynamos, A.C..... No.....	623	6	29	17	204	277
Total Capacity..... K.V.A.....	2,164,890	324	14,385	18,513	797,330	1,015,534
Dynamos, D.C..... No.....	18	1	—	—	7	8
Total Capacity..... K.W.....	1,811	8	—	—	1,285	448
Fuel Stations						
Total Dyanmo Capacity..... K.V.A.....	115,345	1,185	7,771	6,982	1,827	978
Per cent of Total for Canada.....	100.00	1.03	6.74	6.05	1.58	0.85
Dynamos, A.C..... No.....	258	8	27	19	10	9
Total Capacity..... K.V.A.....	108,571	1,185	6,941	6,199	1,798	785
Dynamos, D.C..... No.....	188	—	8	5	5	10
Total Capacity..... K.W.....	6,774	—	830	783	29	193

Tableau 12—Machines des usines principales, 1924

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
Machinerie fournissant la force motrice					
148,297	53,978	89,368	242,014	10,060	primaire..... H.P.
5-21	1-90	3-14	8-49	-35	Pourcentage dans chaque province..... H.P.
21	—	16	55	2	Turbines et roues hydrauliques..... Nomb.
145,625	—	33,520	239,270	10,000	Capacité totale..... H.P.
15	19	50	11	1	Machines à vapeur..... Nomb.
1,725	4,736	13,098	1,194	60	Capacité totale..... H.P.
—	14	13	—	—	Turbines à vapeur..... Nomb.
—	40,047	40,650	—	—	Capacité totale..... H.P.
17	162	46	10	—	Moteurs à gaz et à pétrole..... Nomb.
947	9,195	2,100	1,550	—	Capacité totale..... H.P.
117,600	46,062	69,468	176,316	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
5-15	2-02	3-04	7-73	0-26	Pourcentage dans chaque province..... K.V.A.
37	85	79	72	2	Dynamos, C.A..... Nomb.
117,316	44,726	66,449	175,976	6,000	Capacité totale..... K.V.A.
14	101	40	5	2	Dynamos, C.D..... Nomb.
284	1,336	3,019	340	30	Capacité totale..... K.W.
Usines commerciales					
Machinerie fournissant la force motrice					
78,758	3,655	37,170	229,909	10,060	primaire..... H.P.
4-63	-21	2-18	13-51	-59	Pourcentage dans chaque province..... H.P.
9	—	14	44	2	Turbines et roues hydrauliques..... Nomb.
78,400	—	32,560	229,175	10,000	Capacité totale..... H.P.
5	7	15	7	1	Machines à vapeur..... Nomb.
295	759	2,930	644	60	Capacité totale..... H.P.
—	1	1	—	—	Turbines à vapeur..... Nomb.
—	84	1,000	—	—	Capacité totale..... H.P.
4	99	33	3	—	Moteurs à gaz et à pétrole..... Nomb.
63	2,812	680	90	—	Capacité totale..... H.P.
58,563	2,272	25,647	168,336	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
4-18	0-16	1-83	12-01	0-43	Pourcentage dans chaque province..... K.V.A.
10	21	29	50	2	Dynamos, C.A..... Nomb.
58,425	1,199	25,448	167,996	6,000	Capacité totale..... K.V.A.
8	80	29	5	2	Dynamos, C.D..... Nomb.
138	1,073	199	340	30	Capacité totale..... K.W.
Usines municipales					
Machinerie fournissant la force motrice					
69,539	50,323	52,198	12,105	—	primaire..... H.P.
6-06	4-38	4-55	1-05	—	Pourcentage dans chaque province..... H.P.
12	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
67,225	—	960	10,095	—	Capacité totale..... H.P.
10	12	35	4	—	Machines à vapeur..... Nomb.
1,430	3,977	10,168	550	—	Capacité totale..... H.P.
—	13	12	—	—	Turbines à vapeur..... Nomb.
—	39,963	39,650	—	—	Capacité totale..... H.P.
13	63	13	7	—	Moteurs à gaz et à pétrole..... Nomb.
884	6,383	1,420	1,460	—	Capacité totale..... H.P.
59,037	43,790	43,821	7,980	—	Capacité totale de l'ensemble des dynamos... K.V.A.
6-70	4-97	4-98	-91	—	Pourcentage dans chaque province..... K.V.A.
27	64	50	22	—	Dynamos, C.A..... Nomb.
58,891	43,527	41,001	7,980	—	Capacité totale..... K.V.A.
6	21	11	—	—	Dynamos, C.D..... Nomb.
146	263	2,820	—	—	Capacité totale..... K.W.
Les usines hydrauliques					
115,662	—	23,200	174,012	6,000	Capacité totale de l'ensemble des dynamos... K.V.A.
5-34	—	1-07	8-03	-28	Pourcentage dans chaque province..... K.V.A.
21	—	12	55	2	Dynamos, C.A..... Nomb.
115,662	—	23,200	173,942	6,000	Capacité totale..... K.V.A.
—	—	—	2	—	Dynamos, C.D..... Nomb.
—	—	—	70	—	Capacité totale..... K.W.
Les usines à combustible					
1,938	46,062	46,268	2,304	30	Capacité totale de l'ensemble des dynamos... K.V.A.
1-68	39-93	40-11	2-00	-03	Pourcentage dans chaque province..... K.V.A.
16	85	67	17	—	Dynamos, C.A..... Nomb.
1,654	44,726	43,249	2,034	—	Capacité totale..... K.V.A.
14	101	40	3	2	Dynamos, C.D..... Nomb.
284	1,336	3,019	270	30	Capacité totale..... K.W.

Table 13—Main Plant Equipment Classified, 1924

		Canada	Prince Edward Island — Île du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick
Primary Power—Force motrice primaire					
Water wheels and turbines—Roues hydrauliques et turbines—					
Total No.	667		8	27	19
Total H.P.	2,707,957		279	16,944	23,485
Under—Au-dessous de 500 H.P.	No.	222	8	20	10
Total H.P.	39,557		279	3,674	2,085
500- 2,000 H.P.	No.	193	—	5	2
Total H.P.	209,515		—	6,370	1,500
2,000- 5,000 H.P.	No.	90	—	2	7
Total H.P.	259,085		—	6,900	19,900
5,000-10,000 H.P.	No.	59	—	—	—
Total H.P.	381,200		—	—	—
10,000-15,000 H.P.	No.	61	—	—	—
Total H.P.	707,100		—	—	—
15,000-55,000 H.P.	No.	42	—	—	—
Total H.P.	1,111,500		—	—	—
Steam Reciprocating Engines—Machines à vapeur—					
Total No.	147		2	21	11
Total H.P.	33,876		500	5,163	3,820
Under—Au-dessous de 500 H.P.	No.	132	2	20	8
Total H.P.	21,256		500	4,563	920
500 up	No.	15	—	1	3
Total H.P.	12,620		—	600	2,900
Steam Turbines—Turbines à vapeur—					
Total No.	40		—	8	5
Total H.P.	90,617		—	4,845	5,075
Under—Au-dessous de 500 H.P.	No.	6	—	4	1
Total H.P.	1,109		—	775	250
500- 2,000 H.P.	No.	14	—	4	—
Total H.P.	13,748		—	4,070	1,825
2,000- 5,000 H.P.	No.	15	—	—	1
Total H.P.	43,160		—	—	3,000
5,000-10,000 H.P.	No.	5	—	—	—
Total H.P.	32,600		—	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole—					
Total No.	271		6	5	8
Total H.P.	17,000		1,032	380	1,153
Secondary Power—Force motrice secondaire					
Dynamos A.C. and D.C.—C.A. et C.D.—					
Total No.	1,987		15	64	41
Total K.V.A.	2,282,046		1,517	22,156	25,495
Dynamos A.C.—C.A.					
Total No.	881		14	56	36
Total K.V.A.	2,273,461		1,509	21,326	24,712
Under—Au-dessous de 200 K.V.A.	No.	298	12	32	16
Total K.V.A.	27,722		1,009	3,234	1,912
200- 500 K.V.A.	No.	129	2	13	8
Total K.V.A.	39,761		500	3,767	2,525
500- 1,000 K.V.A.	No.	131	—	5	4
Total K.V.A.	95,304		—	3,325	2,450
1,000- 5,000 K.V.A.	No.	188	—	6	8
Total K.V.A.	417,372		—	11,000	17,825
5,000 10,000 K.V.A.	No.	66	—	—	—
Total K.V.A.	476,362		—	—	—
10,000-55,000 K.V.A.	No.	69	—	—	—
Total K.V.A.	1,216,940		—	—	—
Dynamos D.C.—C.D.					
Total No.	206		1	8	5
Total K.W.	8,585		8	830	783
Under—Au-dessous de 200 K.W.	No.	194	1	6	4
Total K.W.	3,335		8	280	133
200-500 K.W.	No.	7	—	2	—
Total K.W.	2,150		—	550	—
500-1,000 K.W.	No.	5	—	—	1
Total K.W.	3,100		—	—	650

Tableau 13—Machines des usines principales classifiées, 1924

Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	Commercial Commerciales	Municipal Municipales
556,583	1,286,474	148,297	53,978	89,368	242,014	10,060	1,701,793	1,147,657
222	297	21	—	16	55	2	482	185
953,987	1,284,847	145,625	—	33,520	239,270	10,000	1,673,298	1,034,659
80	80	1	—	10	13	—	172	50
14,857	14,267	125	—	1,920	2,350	—	28,453	11,104
57	111	2	—	—	16	—	126	67
64,955	118,370	1,000	—	—	17,320	—	135,320	74,195
27	43	2	—	2	7	—	75	15
76,325	119,960	6,400	—	8,000	21,600	—	217,325	41,760
17	14	14	—	4	8	2	43	16
119,950	84,550	82,100	—	23,600	61,000	10,000	287,300	93,900
23	27	—	—	—	11	—	46	15
248,900	321,200	—	—	—	137,000	—	519,900	187,200
18	21	2	—	—	—	—	20	20
429,000	606,500	56,000	—	—	—	—	485,000	606,500
9	8	15	19	50	11	1	67	80
2,490	1,090	1,725	4,736	13,098	1,194	60	13,463	20,413
8	8	15	17	42	11	1	62	70
1,790	1,090	1,725	2,886	6,528	1,194	60	9,413	11,843
1	—	—	2	8	—	—	5	10
700	—	—	1,850	6,570	—	—	4,050	8,570
—	—	—	14	13	—	—	12	28
—	—	—	40,047	40,650	—	—	10,259	80,358
—	—	—	1	—	—	—	3	3
—	—	—	84	—	—	—	364	745
—	—	—	4	3	—	—	8	6
—	—	—	4,853	3,000	—	—	6,895	6,853
—	—	—	7	7	—	—	1	14
—	—	—	21,710	18,450	—	—	3,000	40,160
—	—	—	2	3	—	—	—	5
—	—	—	13,400	19,200	—	—	—	32,600
6	11	17	162	46	10	—	154	117
106	537	947	9,195	2,100	1,550	—	4,773	12,227
226	304	51	186	119	77	4	681	406
800,442	1,016,960	117,606	46,062	69,468	176,316	6,030	1,401,471	880,575
214	286	37	85	79	72	2	520	361
799,128	1,016,319	117,316	44,726	66,449	175,976	6,000	1,396,205	877,256
47	43	14	63	46	25	—	142	156
5,085	4,445	1,229	4,321	3,930	2,557	—	12,661	15,061
30	42	5	6	12	11	—	73	56
8,851	12,881	1,487	1,888	3,806	4,056	—	21,849	17,912
39	67	—	4	4	8	—	87	44
28,772	48,989	—	2,392	2,838	6,538	—	63,000	32,304
50	77	10	10	14	11	2	131	57
111,520	152,302	34,350	23,625	38,375	22,375	6,000	287,655	129,717
10	32	6	2	3	13	—	37	29
61,900	258,262	38,250	12,500	17,500	87,950	—	257,100	219,262
38	25	2	—	—	4	—	50	19
583,000	539,440	42,000	—	—	52,500	—	753,940	463,000
12	18	14	101	40	5	2	161	45
1,314	641	284	1,336	3,019	340	30	5,266	3,319
9	18	14	101	35	4	2	154	40
114	641	284	1,336	369	140	30	2,666	669
2	—	—	—	2	1	—	5	2
600	—	—	—	800	200	—	1,350	800
1	—	—	—	3	—	—	2	3
600	—	—	—	1,850	—	—	1,250	1,850

Table 14—Electric Energy Generated, 1924

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
ALL STATIONS						
Total K.W. Hours Generated (thousands)	9,315,277	1,555	39,106	39,967	3,714,805	4,289,029
Per cent of total for Canada.....	100.00	0.02	0.42	0.43	39.88	46.04
K.W. Hours generated by non-generating stations.....(thousands)	6,911	—	603	28	—	6,256
K.W. Hours generated by generating stations.....(thousands)	9,308,366	1,555	38,503	39,939	3,714,805	4,282,773
K.V.A. Capacity of generating stations.....	2,400,499	1,517	22,563	25,870	821,557	1,066,288
Ratio of output to maximum capacity (per cent)	48.5	11.7	19.4	17.6	57.7	51.2
Average K.W. hrs. per K.V.A.....	3,878	1,025	1,706	1,544	4,522	4,017
Commercial Stations						
Total						
K.W. hours generated.....(thousands)	6,024,232	1,279	14,664	25,736	3,685,970	1,394,913
K.V.A. capacity.....	1,486,161	1,177	9,050	15,612	805,338	362,596
Ratio of output to maximum capacity (p.c.)	49.5	12.4	18.4	18.8	58.4	44.7
Average K.W. hours per K.V.A.....	4,054	1,087	1,620	1,648	4,578	3,847
Hydraulic						
K.W. hours generated.....(thousands)	5,994,217	88	3,379	13,278	3,685,711	1,394,550
K.V.A. capacity.....	1,466,265	332	3,123	9,525	805,128	362,300
Ratio of output to maximum capacity (p.c.)	49.8	3.0	12.3	15.9	58.4	44.7
Average K.W. hours per K.V.A.....	4,088	265	1,082	1,394	4,578	3,849
Fuel						
K.W. hours generated.....(thousands)	30,015	1,191	11,285	12,458	259	363
K.V.A. capacity.....	19,896	845	5,927	6,087	210	296
Ratio of output to maximum capacity (p.c.)	17.2	16.0	21.7	23.3	14.0	14.0
Average K.W. hours per K.V.A.....	1,509	1,409	1,904	2,047	1,233	1,226
Municipal Stations						
Total						
K.W. hours generated.....(thousands)	3,284,134	276	23,839	14,203	28,835	2,887,860
K.V.A. capacity.....	914,338	340	13,513	10,258	16,219	703,692
Ratio of output to maximum capacity (p.c.)	47.0	9.2	20.1	15.8	21.2	55.0
Average K.W. hours per K.V.A.....	3,592	812	1,764	1,385	1,778	4,104
Hydraulic						
K.W. hours generated.....(thousands)	3,164,821	—	21,752	12,500	27,993	2,886,903
K.V.A. capacity.....	818,889	—	11,669	9,363	14,852	703,010
Ratio of output to maximum capacity (p.c.)	51.5	—	21.2	15.2	22.7	55.0
Average K.W. hours per K.V.A.....	3,865	—	1,864	1,335	1,885	4,106
Fuel						
K.W. hours generated.....(thousands)	119,313	276	2,087	1,703	842	957
K.V.A. capacity.....	95,449	340	1,844	895	1,617	682
Ratio of output to maximum capacity (p.c.)	14.2	9.2	12.9	21.7	5.9	16.0
Average K.W. hours per K.V.A.....	1,250	812	1,132	1,903	5,207	1,403
Total Hydraulic						
K.W. hours generated.....(thousands)	9,159,038	88	25,131	25,778	3,713,704	4,281,453
K.V.A. generated.....	2,285,154	332	14,792	18,888	819,730	1,065,310
Ratio of output to maximum capacity (p.c.)	48.1	3.0	19.3	15.5	57.8	51.3
Average K.W. hours per K.V.A.....	4,008	265	1,699	1,365	4,530	4,019
Total Fuel						
K.W. hours generated.....(thousands)	149,328	1,467	13,372	14,161	1,101	1,320
K.V.A. capacity.....	115,345	1,185	7,771	6,982	1,827	978
Ratio of output to maximum capacity (p.c.)	14.7	14.1	19.6	23.1	6.9	15.4
Average K.W. hours per K.V.A.....	1,295	1,238	1,721	2,028	603	1,350

Tableau 14—Energie électrique produite, 1924

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
TOUTES USINES					
433,517	59,200	121,291	608,089	8,718	Total K.W. heures produits (milliers)
4.65	0.64	1.30	6.53	0.09	Pourcentage du total pour le Canada
—	—	20	—	4	K.W. heures produits par les usines non génératrices (milliers)
433,517	59,200	121,271	608,089	8,714	K.W. heures produits par les usines génératrices (milliers)
142,763	46,062	71,493	196,356	6,030	Capacité des usines génératrices en K.V.A.
37.9	14.6	19.3	35.7	16.5	Proportion de la production à la capacité (p.c.)
3,037	1,285	1,696	3,097	1,445	Moyenne des k.w. heures par K.V.A.
Usines commerciales					
Total					
231,114	1,598	68,622	591,622	8,714	K.W. heures produits (milliers)
69,813	2,272	27,672	186,601	6,030	Capacité en K.V.A.
3.83	8.0	28.2	36.5	16.5	Proportion de la production à la capacité (p.c.)
3,310	703	2,480	3,171	1,445	Moyenne des k.w. heures par K.V.A.
Hydrauliques					
230,972	—	66,429	591,135	8,675	K.W. heures produits (milliers)
69,600	—	24,375	185,882	6,000	Capacité en K.V.A.
38.4	—	31.0	36.8	16.5	Proportion de la production à la capacité (p.c.)
3,319	—	2,725	3,180	1,446	Moyenne des K.W. heures par K.V.A.
A combustible					
142	1,598	2,193	487	39	K.W. heures produits (milliers)
213	2,272	3,297	719	30	Capacité en K.V.A.
7.6	8.0	7.6	7.7	14.8	Proportion de la production à la capacité (p.c.)
667	703	665	677	1,300	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
202,403	57,602	52,649	16,467	—	K.W. heures produits (milliers)
72,950	43,790	43,821	9,755	—	Capacité en K.V.A.
37.5	15	13.7	19.2	—	Proportion de la production à la capacité (p.c.)
2,775	1,315	1,201	1,688	—	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
200,740	—	871	14,062	—	K.W. heures produits (milliers)
71,225	—	850	8,170	—	Capacité en K.V.A.
38.3	—	13.3	19.6	—	Proportion de la production à la capacité (p.c.)
2,818	—	1,025	1,721	—	Moyenne des K.W. heures par K.V.A.
A combustible					
1,663	57,602	51,778	2,405	—	K.W. heures produits (milliers)
1,725	43,790	42,971	1,585	—	Capacité en K.V.A.
11.0	15.0	13.7	17.3	—	Proportion de la production à la capacité (p.c.)
964	1,315	1,205	1,517	—	Moyenne des K.W. heures par K.V.A.
Total hydrauliques					
431,712	—	67,300	605,197	8,675	K.W. heures produits (milliers)
140,825	—	25,225	194,052	6,000	Capacité en K.V.A.
38.3	—	30.5	35.9	16.5	Proportion de la production à la capacité (p.c.)
3,066	—	2,668	3,119	1,446	Moyenne des K.W. heures par K.V.A.
Total à combustible					
1,805	59,200	53,971	2,892	39	K.W. heures produits (milliers)
1,938	46,062	46,268	2,304	30	Capacité en K.V.A.
10.6	14.6	13.3	14.3	15.0	Proportion de la production à la capacité (p.c.)
931	1,285	1,166	1,255	1,300	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Tableau 15—Fuel, 1924
Tableau 15—Combustible, 1924

Province	Coal Charbon		Coke Coke		Gasoline and Coal Oil Gazoline et huile de charbon		Fuel Oil Pétrole	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
	ton	\$	ton	\$	gal.	\$	gal.	\$
	tonnes	\$	tonnes	\$	gal.	\$	gal.	\$
Canada	429,408	1,918,470	1,731	6,976	277,541	72,719	1,539,156	192,307
Prince Edward Island.....	2,992	30,559	—	—	—	—	11,000	1,229
Nova Scotia.....	39,409	197,085	—	—	220	77	48,387	8,442
New Brunswick.....	25,164	163,392	—	—	3,392	813	86,500	11,311
Quebec.....	3,733	39,554	—	—	5,857	1,989	14,085	2,029
Ontario.....	27,142	184,299	1,728	6,946	6,600	1,885	2,075	305
Manitoba.....	33,869	202,749	3	30	17,258	4,733	110,413	18,164
Saskatchewan.....	123,722	623,293	—	—	160,973	47,335	434,046	80,280
Alberta.....	165,230	430,847	—	—	48,776	11,983	41,365	6,805
British Columbia.....	8,147	46,692	—	—	34,465	3,904	791,285	63,742
Yukon.....	—	—	—	—	—	—	—	—

	Wood Bois		Gas Gaz		Other Fuel Autre combustible	Total
	Quantity	Value	Quantity	Value	Quantity	Value
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
	cord	\$	1,000 cu. ft.	\$	\$	\$
	corde	\$	1,000 pd cu.	\$	\$	\$
Canada	16,650	87,382	962,979	32,515	77,921	2,388,290
Prince Edward Island.....	100	400	—	—	—	32,188
Nova Scotia.....	841	4,202	—	—	2,899	212,705
New Brunswick.....	20	80	125,000	50	—	175,646
Quebec.....	20	75	—	—	71,657	115,304
Ontario.....	2,367	12,327	—	—	—	205,762
Manitoba.....	4,211	23,949	—	—	—	249,625
Saskatchewan.....	7,928	40,049	—	—	3,264	794,221
Alberta.....	—	—	837,979	32,465	24	482,124
British Columbia.....	634	1,799	—	—	77	116,214
Yukon.....	529	4,501	—	—	—	4,501

Cost of steam purchased by the Windsor, Ont., station to operate its engines is not included.
Sans inclure le coût de la vapeur achetée pour les engines de la station de Windsor, Ont.

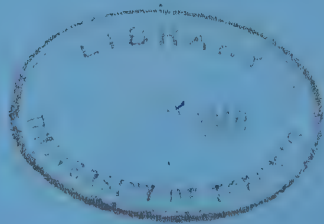
CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY, 1925

CENTRAL ELECTRIC STATIONS
IN CANADA

Prepared in collaboration with the Dominion Water Power and Reclamation Service, Department of the Interior, with the assistance of The Ontario Hydro-Electric Power Commission, The Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and The Manitoba Power Commission)

Published by authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce



OTTAWA
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PREFACE

The annual report on the central electric station industry in Canada for 1925 has been prepared along the same lines as in previous years.

The report was compiled and written by Mr. G. S. Wrong, B.Sc., Chief of the Transportation Branch of the Bureau and, under a co-operative arrangement with the Dominion Water Power and Reclamation Service of the Department of the Interior, was checked and edited by Mr. Alexander Roger under the direction of Mr. J. T. Johnston, the Director of that Service. Assistance was also received from the Gas and Electricity Inspection Services of the Department of Trade and Commerce and the several provincial power commissions, for which the Bureau tenders its grateful thanks.

Index Numbers of Rates for Electricity for Residence Lighting and Tables of Monthly Bills, which were compiled and issued by the Bureau in mimeograph form in 1926, have been added as an appendix. The manner of weighting and computing these index numbers was similar to that used for computing wholesale and retail prices index numbers.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, January 26, 1927.

NOTE ON CANADIAN WATER-POWERS

BY

The Dominion Water Power and Reclamation Service

The predominance of water-power as a motive force in the central electric station industry is such that no conspectus of that industry is complete without some outstanding reference to the administration and development of this one of Canada's greatest natural resources. As approximately 81 per cent of Canada's total hydraulic installation is in central electric stations and as the percentage of hydraulic development for that use is increasing year by year the electrical output of the hydraulic central stations has shown a corresponding increase over the output of those stations using fuel as a source of primary power until during the year 1925 over 98·3 per cent of the total electrical output of Canada's central electric stations originated in the energy of falling water.

The administration of the water resources of the Dominion, is in accordance with the terms of the British North America Act of 1867, a divided federal and provincial responsibility.

The federal authority extends over the water-powers of the provinces of Alberta, Saskatchewan and Manitoba and the Yukon and Northwest Territories, administrative control being exercised by the Dominion Water Power and Reclamation Service, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water-power administration in their respective provinces. The federal Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the provinces of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island were the property of the respective provinces before Confederation, administrative control of water-powers situated within these provinces became vested in the Legislative Assemblies, active administration being carried on in British Columbia¹, by the Department of Lands; in Ontario, by the Department of Lands and Forests; in Quebec, by the Department of Lands and Forests; in New Brunswick by the Department of Lands and Mines; in Nova Scotia by the Commissioner of Public Works and Mines; and Prince Edward Island by the Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

¹ Title to water powers in the Railway Belt of British Columbia is vested in the Federal Government, although they are at present administered under the Provincial Water Act.

The hydraulic installation of Canada was increased by almost 266,000 horse-power during the year 1926 and while this is considerably less than the record figure of the preceding year the bare figure falls far short of indicating the magnitude of constructional activity during the year. Projects actually under way, several of which are nearing completion, will ultimately add more than 1,700,000 horse-power to the total, while others in active prospect, promise a further addition in excess of 1,000,000 horse-power.

New installation and replacements of units in the Province of Quebec produced a net increase in that province's installation of 168,000 horse-power during the year, British Columbia being next in order with 45,800 horse-power followed by Manitoba with 43,200 horse-power, Ontario with 5,700 horse-power, New Brunswick with 2,600 horse-power and a small addition in Nova Scotia.

In the province of Quebec the hydro-electric activities of the Canadian International Paper Company in the Hull district are outstanding among this year's developments. Through its subsidiary, the Gatineau Power Company, construction of three important hydro-electric developments on the Gatineau river was commenced. These plants will have a combined installation of 530,000 horse-power, the first unit 34,000 horse-power being in place about the end of the year. The output of these plants is to supply a large pulp and paper mill under construction by the parent company at Gatineau, part is for local distribution while a contract to purchase a block of 230,000 to 260,000 horse-power has been made with the Hydro-Electric Power Commission of Ontario to augment the supply to its Niagara System. Delivery of this power is to commence in 1928, and will be carried over a high tension transmission line from the plants direct to Toronto.

In the Lake St. John district the Duke-Price Power Company added two units of 45,000 horse-power each to its Ile Maligne development on Saguenay river, bringing the installation to 450,000 horse-power. Provision has been made for the installation of two similar units to complete the ultimate capacity of 540,000 horse-power. Preliminary construction was continued on the 800,000 horse-power development of the Aluminum Company of Canada, at Chute-a-Caron on the same stream. The ample supply of power for manufacturing purpose guaranteed by the construction of these two plants has resulted in a remarkable industrial development in the district. The Duke-Price Power Company's plant is also being connected by a 168,000 volt transmission line to the lines of the Shawinigan Water and Power Company at a point near Quebec City.

The Shawinigan Water and Power Company through a subsidiary, the North Shore Power Company, placed in operation a new development of 22,200 horse-power at St. Narcisse on the Batiscan river. This replaced an earlier installation of 1,600 horse-power reputed to be the first in the British Empire from which long distance transmission was achieved.

Other hydraulic installation placed in operation during the year included a 16,800 horse-power addition to the Canadian International Paper Company's Kipawa plant, an addition of 800 horse-power to the Donnacona Paper Company's Pont Rouge plant, a 2,000 horse-power addition to the Electric Reduction Company's Buckingham plant and other smaller developments.

Also construction has started on a number of developments in Quebec, notably one of 40,000 horse-power on Outardes river for the Ontario Paper Company; one of 4,000 horse-power on the Ste. Anne-Perade river for the Shawinigan Water and Power Company replacing an older installation of 750 horse-power and one of 2,000 horse-power by the Municipality of Coaticook replacing four smaller installations aggregating 570 horse-power.

Some very extensive projects are in active prospect in the province. These include a 65,000 horse-power development by the Power Corporation of Canada on Prairies river near Montreal, and 50,000 horse-power development by the

Southern Canada Power Company at Spicer Fall on St. Francois river, a 40,000 horse-power development by the Canadian International Paper Company on Rouge river, a 50,000 horse-power addition to the Ottawa River Power Company's Bryson plant and many lesser or less definite projects.

British Columbia's net increase of 45,860 horse-power was due to the addition of 25,860 horse-power to the plant of the Powell River Company and to the installation of the third and final unit of 20,000 horse-power to the Lower Bonnington Station of the West Kootenay Light and Power Company at Lower Bonnington Falls. The latter company also commenced the construction of a new development of 60,000 horse-power at South Slocan on Kootenay river.

The British Columbia Electric Railway Company proceeded with the construction of its Alouette Station during the year and the turbine of 12,500 horse-power capacity, is expected to be installed early in 1927. This same company carried on preliminary work during the year in connection with its Bridge River project which is designed for an initial installation of 54,000 horse-power which may reach an ultimate total of from 550,000 to 700,000 horse-power.

In Manitoba the City of Winnipeg added units 15 and 16 to its station at Point du Bois on the Winnipeg river. These units, of 7,600 horse-power capacity each complete the installation of the station to its ultimate capacity of 109,000 horse-power.

The Manitoba Power Company added a third unit of 28,000 horse-power to its Great Falls plant, contracted for a fourth unit of the same size and completed the necessary structures to secure the full designed head of the plant.

In the province of Ontario the completion near the end of 1925 of a very large program of construction caused an apparent cessation of activity during 1926 but while the installation for the year only totalled 5,746 horse-power divided among four small plants, construction was commenced on three developments of considerable magnitude. These are the development of 54,000 horse-power at Alexander Landing on Nipigon river by the Hydro-Electric Power Commission of Ontario; the development of 70,000 horse-power at Smoky Falls on Mattagami river by the Spruce Falls Company and the development of 37,620 horse-power in three plants on the Seine river by the Backus-Brooks Company.

In the Maritime Provinces the Maine and New Brunswick Electrical Power Company, increased the capacity of its plant at Aroostook Falls on Aroostook river by 2,600 horse-power by the replacement of a unit by one of larger capacity and the Nova Scotia Power Commission added a 300 horse-power unit to its Mushamush development.

The outstanding event of the year was the commencement of the development of Grand Falls on St. John river by the St. John River Power Company. This site, the largest in the Maritime Provinces will have an initial installation of 60,000 horse-power, the power to be used principally in two large newsprint mills while a block is also being reserved for distribution by the New Brunswick Electric Power Commission.

Projects under consideration in New Brunswick include a possible development of 40,000 horse-power on Nipisiguit river while in Nova Scotia the provincial commission is considering the development of the Sandy Lake stage of the St. Margarets Bay development to meet the growing load in Halifax, and a development on Medway river of an initial capacity of about 2,500 horse-power to supply a proposed pulp mill. The Avon River Power Company has also under consideration a development of 3,000 horse-power at Avon River Falls.

The Dominion Water Power and Reclamation Service, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources

of the Dominion upon a reliable and uniform basis. As a result of a careful re-analysis and computation by the Service, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hour power at 80 per cent efficiency		Turbine Installation
	At ordinary minimum flow	At ordinary 6 months flow	
1	2	3	4
	Horse-power	Horse-power	Horse-power
British Columbia.....	1,931,142	5,103,460	460,562
Alberta.....	475,281	1,137,505	34,107
Saskatchewan.....	513,481	1,087,756	35
Manitoba.....	3,270,491	5,769,444	227,125
Ontario.....	4,950,300	6,808,190	1,790,588
Quebec.....	6,915,244	11,640,052	1,915,443
New Brunswick.....	50,406	120,807	47,231
Nova Scotia.....	20,751	128,264	65,702
Prince Edward Island.....	3,000	5,270	2,274
Yukon and Northwest Territories.....	125,220	275,250	13,199
	18,255,316	32,075,998	4,556,266

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 485 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, January 26, 1927.

CENTRAL ELECTRIC STATION INDUSTRY, 1925

The central electric station industry in Canada showed a substantial growth during 1925. Generating capacity was increased by 562,663 K.V.A. or 24·6 per cent, the total capacity being 2,844,709 K.V.A. Capital investment was increased by \$98,155,994, or 15·6 per cent, and the output was greater than during 1924 by 795,182,000 kilowatt hours, or 8·5 per cent. The net increase in the number of power plants was 31, of which 11 were hydraulic and 20 were fuel power plants, 18 of the latter being small plants in Saskatchewan.

In Canada the central electric station industry is hydro-electric, except for a few medium sized plants in the Maritime Provinces and in the Prairie Provinces, and for the numerous small power plants throughout the country supplying local demands in sections remote from water-powers, particularly in Saskatchewan and Alberta. The hydraulic electric stations generated over 98 per cent of the total output of the industry and their capacity was over 95 per cent of the total. Improvements in internal combustion engines, gasoline, diesel and gas and also in generators, electric lamps, etc. have assisted considerably in the development of this industry, but the development of long distance transmission of electricity which permitted the power from water falls to be transmitted to industrial centres and the accompanying improvements in hydraulic machines gave the industry the great impetus it has received during the past 20 years. Although the greater part of the hydro-electric energy has been transmitted from the water-power sites to the industrial centres, industries are being attracted to the power sites, especially when other factors necessary to industrial development are present, such as supplies of raw material, transportation facilities, etc.; the pulp and paper industry is the most outstanding example and it has been greatly benefited by power being close to the pulpwood forests.

Hydraulic stations increased 553,469 K.V.A. in capacity during 1925, over half of the increase being 8 units rated at 240,000 K.V.A. of the Duke-Price development on the Saguenay river in Quebec installed in May. The Southern Canada Power Company completed their new power house at Hemming Falls on the St. Francis river near Drummondville, Quebec, adding 36,000 K.V.A. Another large addition to the industry was the initial installation in the Hydraulic plant of the Ottawa River Power Company at Bryson, Quebec, with a capacity of 22,500 K.V.A.

In Ontario the Hydro-Electric Power Commission installed at their Queenston plant the eighth and ninth units with a rating of 54,000 K.V.A. each. They also added two hydraulic turbines to their plant at South Falls on the Muskoka river increasing the generator capacity of the Georgian Bay System by 4,000 K.V.A. Two new units were placed in operation in their plant at Cameron Falls on the Nipigon river adding 21,200 K.V.A. to the Thunder Bay System. The new power house at dam 9 on the Trent river added 4,200 K.V.A. to the capacity of the Central Ontario System.

The Keewatin Power Company installed generators rated 15,600 K.V.A. in their new power house at the western outlet of the Lake of the Woods and the Wahnapiitae Power Company constructed a new plant on the Wanapitei river above Sudbury with a capacity of 5,000 K.V.A.

In British Columbia the large additions were 13,125 K.V.A. by the Western Power Company at their Stave Falls plants and 35,000 K.V.A. by the West Kootenay Power Company who completely reconstructed their plant at the Lower Bonnington Falls on the Kootenay river, the old plant having been dismantled in 1924.

In Manitoba the only large addition was 6,500 K.V.A. by the city of Winnipeg in their hydro-electric plant on the Winnipeg river.

There were no large additions made in Nova Scotia during the year but the Avon River Power Company, which commenced operating their plant on the Avon River in 1924, reported for the first time in 1925, and also the equipment of the Nova Scotia Power Commission plant at Sheet Harbour was included in these statistics for the first time in 1925.

The only large addition to fuel plants was made by the city of Regina, Saskatchewan, by the installation of a new 9,375 horse-power steam turbine adding 6,250 K.V.A. to the generator capacity of their plant.

By Order in Council under authority of the Electricity and Fluid Exportation Act, Chapter 6, 1907, an export duty of three one-hundredths of one cent per kilowatt hour upon all electric energy exported from Canada was imposed, effective April 1, 1925. Certain exemptions were made subsequently and for the fiscal year ended March 31, 1926, the duty collected amounted to \$288,392.41.

The electric energy generated for export to the United States during 1925 was less than in 1924 by 1,124,384 kilowatt hours. The following table shows the total quantities generated and generated for export by each plant exporting in 1925.

KILOWATT HOURS EXPORTED TO THE UNITED STATES IN 1925

Company	Exported	Generated
Maine & New Brunswick Electric Power Company.....	6,696,394	7,847,205
Sherbrooke Railway & Power Co.....	78,096	11,159,284
Cedars Rapids Mfg. & Power Co.....	357,100,100	694,685,100
Hydro Electric Power Comm. of Ont. (Niagara System).....	541,711,200	2,782,357,000
Canadian Niagara Power Co.....	326,009,696	581,002,406
Ontario & Minnesota Power Co.....	15,576,500	31,390,486
Western Canada Power Co.....	52,260,169	189,184,750
West Kootenay Power & Light Co.....	621,400	256,722,300
British Columbia Electric Ry. Co. Ltd.....	650,129	148,722,900
Maritime Electric Company, Ltd.....	296,158	1,227,430
International Electric Co.....	89,482	89,482
La Cie d'eclairage de Napierville.....	102,970	385,152
Total.....	1,301,192,294	4,704,773,495

Table 1—Comparative Summary, 1921–1925.—There has been a marked increase in all the data except in those of steam reciprocating engines, where there has been a gradual decrease from year to year; also there has been only a very small increase in the capacity of steam turbines and internal combustion engines. The relatively large increase in capital, etc., of municipal stations includes transfers of commercial systems to municipal ownerships, the largest transfer being the purchase of the systems of the Toronto Power Company by the Ontario Hydro Electric Power Commission.

Table 2.—Summary of Principal Data, 1925–1924.—The net revenues shown in this table and in table 5 are the gross revenues less the revenues received from the sale of power to stations for resale. These payments are included under cost of power by the purchasing stations and under gross revenues for all other purposes by the selling stations. The net revenues of the stations as a whole, therefore, are gross revenues with duplications eliminated, or the total amounts paid by the consumers and not the gross revenues less operating expenses as is the general meaning of the term. The revenues from power for lighting purposes do not include any duplications. The outstanding features of comparisons of data of commercial stations and municipal stations are the relatively high output and low gross revenues, especially revenues from lighting, of commercial stations. The net revenues per kilowatt hour of output were .646 cent for commercial stations and 1.036 cents for municipal stations. The service of the commercial stations is more wholesale in nature than that of municipal stations. Their investment in distribution lines per kilowatt hour of output was only .84 cent whereas it was 2.10 cents for municipal stations; their revenue from lighting was only 39 per cent of their total net revenue as against 60 per cent

for municipal stations and their domestic light customers were only 43 per cent of the total despite their greater output. This more wholesale nature of service not only reduces investments in distribution lines, meters, etc., and reduces the number of meter readers and other employees, but it gives a better load factor as many of the large manufacturers, especially the pulp and paper mills and mines, operate 24 hours each day and use large blocks of power. This better load factor is indicated by the ratios of output to maximum capacity shown in table 14, the commercial stations for Canada having the high ratio of 44.7 per cent compared with 38.3 per cent for municipal stations.

Over 60 per cent of the cost of power intercharged between stations was paid by non-generating stations, so that net revenues of non-generating stations are not comparable with the net revenues of other classes of stations where the net eliminates duplications of gross revenues; the investment data, line mileages, etc. are comparable. The bulk of the output of non-generating stations was from the station at Windsor, Ont. This is explained under table 3.

The data under "Expenses" in this table and also in table 6 do not include all expenses but only those specified.

Although the generator capacity was increased by 24 per cent during 1925, the output was greater than for 1924 by only 9 per cent which was the smallest yearly rate of increase during the past four years. The larger increase in both equipment and output was in the commercial stations, which produced 65 per cent of the total output and at the close of the year contained 63 per cent of the total generator capacity.

Table 3—Electric Power Plants.—The number of power plants increased from 532 in 1924 to 563 in 1925, an increase of 11 hydraulic and 20 fuel plants. eighteen of the new fuel stations were in Saskatchewan but as the units were small, the horse-power capacity of Saskatchewan stations has not been greatly increased.

For the purpose of statistics all companies, municipalities or individuals selling or distributing electric energy, whether generated by themselves or purchased in bulk for resale, are defined as central electric stations. The stations are divided according to operation into commercial and municipal, the former including all stations operated by private parties, stock companies, etc. and the latter including all stations operated by municipal, provincial or federal governments.

The non-generating stations purchase all the electricity they distribute except in a few cases where standby or emergency equipment is used to generate small quantities. The municipal station at Windsor, however, is one of the stations on the Niagara System of the Ontario Hydro Electric Power Commission and is treated as a non-generating station although it has equipment run by steam purchased from a salt works and generates considerable power throughout the year. The cost of this steam is not included in the cost of fuel in table 15. All stations using water power are classed as hydraulic and any steam, gas or oil engines in them are considered as auxiliary equipment. Fuel stations include all stations that are not hydro electric, i.e. all stations with steam, gas or oil engines only for the primary power. The power plants are the individual plants irrespective of ownership, some companies and municipal organizations owning several.

The commercial and municipal organizations shown in this table are all such organizations furnishing reports to the Bureau. The relationship of power companies and their subsidiary companies is often quite complex; in some cases the parent company furnishes only one report including data for the subsidiary companies and in other cases separate reports are made, depending upon the manner in which the company records are kept.

The populations are not official census figures but were supplied by the stations or obtained from other sources.

The majority of the municipal organizations buying power for redistribution in Ontario are municipalities buying from the provincial commission.

Table 4—Capital.—Over 63 per cent of the total increase in capital invested was in Quebec stations, which showed an increase of \$62,520,825, the large hydro-electric developments accounting for practically all of it.

The averages at the foot of the table include the total capital, the capital for generation, i.e. power houses and machinery, dams, etc. capital for transmission lines and for distribution lines divided by the horse power, K.V.A., mileage, etc. as shown and give a very good idea of relative costs.

Table 5—Revenue.—The gross revenue received from the sale of electric energy in 1925 was \$102,587,882, an increase of \$7,418,114, or 7.8 per cent over 1924. Since this amount included the revenue received from the interchange of electric energy between stations, the cost of this energy has been deducted leaving a net revenue of \$79,341,584, the true amount paid by consumers which was an average net revenue for all of Canada of .78 cents per kilowatt hour. While the total net revenue represents the total amount paid by consumers for electricity in Canada, these items for the different classes of stations represent only the differences between the gross revenue collected and the cost of electricity purchased by the stations of each class. The averages at the foot of the table, however, include all stations. Large quantities of power are sold by generating stations to their subsidiary manufacturing companies practically at cost. Also substantial quantities of off-peak power are sold at rates which are extremely low, some of it for heating water in pulp and paper mills and some for other commercial uses. Where the power is sold at low rates to subsidiary distributing companies, the effect on the average net revenue per kilowatt hour is nil, but where the purchaser is a consumer the effect is to lower the average.

The value of electric energy furnished free, practically all by municipal stations, for street lighting, etc. has been included in revenue.

Table 6—Expenses.—As explained above this table includes only salaries and wages, cost of fuel, taxes and cost of power interchanged between stations and does not include all operating expenses. Over 50 per cent of the total cost of power was for power sold by the Ontario Hydro Electric Power Commission to the cities, towns and other municipalities throughout Ontario for distribution and over 20 per cent was for power interchanged between commercial stations in Quebec province.

Taxes include both property and business taxes.

Table 7—Employees.—The number of employees in the central electric station industry in 1925 was 13,263, an increase of 307, or 2 per cent over 1924. This amount includes many part time employees, i.e. a man working half time was counted as half a man. This method has been used in previous years and the data are comparable.

Table 8—Number of Customers.—The number of customers increased by 78,781, or 6.6 per cent during the year, the largest increase being in the domestic light customers. The average number of domestic light customers per 100 population was computed by using the estimated total population, both urban and rural, of each province. British Columbia continued to show the greatest density with 17.31 per 100 population. There are several factors affecting this high average; the cities are young compared with those of the central and eastern provinces and a larger per cent of the houses were wired when built, the urban population is large, much larger than the official census figures indicate on account of there being no incorporated towns or villages and also on account of several large mining towns and pulp and paper towns and districts such as Point Grey and Vancouver South being considered as rural districts, and the province has a good supply of hydro-electric power.

Table 9—Pole Line Mileage.—Extensions in pole line mileage in 1925 increased the transmission mileage 644 miles and the distribution mileage 355 miles. The bulk of these extensions was made in the province of Quebec. All lines from power houses to receiving stations are included under transmission and lines from receiving stations to substations and to customers are included under distribution.

Tables 10, 11, 12, 13—Equipment.—The capacity of primary power equipment has increased 720,077 horse power in main plants and 5,068 horse power in auxiliary plants. Over 80 per cent of installed capacity was in Ontario and Quebec, Ontario having 329 units with an average capacity of 4,441 horse power and Quebec having 256 units with an average capacity of 5,527 horse power. The largest units in Canada in the central electric station industry are in the Queenston power house of the Hydro Electric Power Commission of Ontario rated at 55,000 horse power each. There are 9 units now installed, the last unit being placed in operation in December 1925. Of the 231 D.C. generators 128, or 55 per cent were in Saskatchewan and practically all were driven by internal combustion engines but were all small units having an average capacity of only 13 kilowatts.

Auxiliary plant equipment includes all steam, gas or oil engines and the dynamos driven by them in hydro electric power houses and all standby equipment of non-generating stations. All equipment in fuel generating stations is considered as main plant equipment, even though some of it might be held in reserve.

Table 14.—Electric Energy Generated.—The total output of all stations in Canada during 1925 was 10,110,459,000 kilowatt hours, an average of 17,944,000 kilowatt hours per power house and an average of 1,080 kilowatt hours per capita based on the estimated total population for Canada of 9,364,200. Although the fuel power plants were quite numerous, comprising almost 50 per cent of the total, they, on the whole, were small and generated less than 2 per cent of the total output. The output of the hydraulic power plants aggregated 9,941,604,000 kilowatt hours or over 35,000,000 kilowatt hours per power house.

The ratios of output to maximum capacity are the total outputs divided by the product of the capacity in K.V.A. by the number of hours in the year (8760), units which were installed during the year being charged only with the time in operation; or in other words, the average capacity for the year was used and not the capacity at the end of the year. Similarly the average output per K.V.A. is the total output divided by the average capacity for the year. The decrease in these averages for Quebec and Ontario stations was due to the effect of the large additions to the capacities of the stations and these averages will increase as the peak load again approaches the maximum capacity of the stations. It is of course, the peak load, which lasts for only short periods, that necessitates the installation of additional equipment. An output of over 40 per cent of maximum capacity is therefore a very good ratio for any class of stations. The fuel stations had relatively low ratios as a whole, the highest being 22.6 per cent for commercial fuel stations in Quebec and the lowest being the Quebec municipal fuel stations.

Table 15—Fuel.—This table includes the quantity and value of fuel used in generation of electric energy for sale in 1925 in both fuel stations and in auxiliary or standby equipment of hydraulic and of non-generating stations. The value of fuel used in fuel stations only in 1925 was \$1,736,961 and in auxiliary stations \$529,275.

The average cost of fuel per kilowatt hour of fuel stations only was 1.08 cents. The amount does not include the cost of steam used to generate energy by the Windsor, Ontario, station.

Table 2—Comparative Summary, 1925-1921 Tableau 1—Résumé comparatif, 1925-1921

Principal Data by Class of Station Données principales par classes d'usines		1925	1924	1923	1922	1921	Per cent increase 1924 over 1920 — Pourcentage d'augmenta- tion de 1924 sur 1920
Electric Power Plants—	Usines généra- trices—						
Total	Total	563	532	532	522	510	10.4
Hydraulic	Hydrauliques	284	273	269	269	259	9.7
Fuel	A combustible	279	259	263	253	251	11.2
Commercial	Commerciales	365	333	335	326	317	15.1
Municipal	Municipales	198	199	197	196	193	2.6
Capital—	Capitaux—						
Total	Total	726,721,087	628,565,093	581,780,611	568,068,752	484,669,451	49.9
Commercial	Commerciales	409,862,801	326,554,580	307,046,240	326,448,922	327,439,827	25.2
Municipal	Municipales	316,858,286	302,010,513	274,734,371	241,619,830	157,229,624	101.5
Generating	Productrices	625,970,883	532,016,164	489,085,939	484,635,750	410,382,610	52.5
Non generating	Non productrices	100,750,204	96,548,929	92,694,672	83,423,002	74,286,832	35.6
Revenue—	Recettes—						
Total	Total	102,587,882	95,169,768	91,141,296	82,328,866	73,376,586	39.8
Commercial	Commerciales	51,576,627	47,529,216	44,539,654	44,776,945	42,713,327	20.8
Municipal	Municipales	5,011,255	47,640,552	46,601,642	37,551,921	30,663,253	60.4
Generating	Productrices	70,278,288	65,602,441	62,304,186	56,385,731	52,446,929	34.0
Non generating	Non productrices	32,309,594	29,567,327	28,837,110	25,943,135	20,930,651	51.4
Expenses—	†Dépenses—						
Total	Total	47,635,531	40,887,779	41,067,329	37,327,493	33,364,566	42.8
Commercial	Commerciales	21,325,649	16,777,557	15,319,394	14,704,651	14,175,563	50.4
Municipal	Municipales	26,309,882	24,110,222	25,747,935	22,622,842	19,189,003	37.1
Generating	Productrices	24,857,279	20,198,257	20,992,105	19,304,835	18,078,155	37.5
Non generating	Non productrices	22,778,252	20,689,922	20,075,224	18,022,658	15,286,411	49.0
Pole Line Mileage—	Lignes sur poteaux—						
Total	Total	27,653	26,654	23,560	22,669	21,714	27.4
Commercial	Commerciales	13,047	12,102	11,146	11,123	10,987	18.7
Municipal	Municipales	14,606	14,552	12,414	11,546	10,727	36.2
Generating	Productrices	18,372	17,340	14,405	13,927	13,460	36.5
Non generating	Non productrices	9,281	9,314	9,155	8,742	8,254	12.4
Customers—	Abonnés—						
Total	Total	1,279,731	1,200,950	1,112,547	1,053,545	973,212	31.5
Domestic light	Eclairage domesti- que	1,063,530	989,510	920,223	889,346	830,062	29.6
Commercial light	Eclairage commer- cial	180,994	176,444	159,929	164,199	143,150	17.7
Power	Force motrice	35,207	34,996	32,395	—	—	—
Commercial sta- tions	Commerciales	559,172	521,064	496,591	476,285	466,235	19.9
Municipal stations	Municipales	720,559	679,886	615,956	577,260	506,977	42.1
Generating	Productrices	653,032	610,206	547,928	533,923	531,643	22.8
Non generating	Non productrices	626,699	590,744	564,619	519,622	441,569	41.9
Electric Energy Gen-Énergie Electrique erated— produite—							
Total kilowatt hours (thousands)	K.W. heures pro- duites (milles)	*10,110,459	*9,315,277	*8,099,192	*6,740,750	5,614,132	80.1
Commercial	Commerciales	6,527,103	6,024,312	5,074,120	5,119,676	4,316,272	51.2
Municipal	Municipales	3,583,356	3,290,965	3,025,072	1,621,074	1,297,860	176.1
Equipment in generating stations (main plant only),							
Machinerie dans les usines productrices (Machines des usines principales),							
Total primary power	H.P.	3,569,527	2,849,450	2,423,845	2,258,398	1,977,857	80.4
Total force motrice primaire							
Water wheels and turbines	No.	710	667	641	629	604	17.5
Turbines et roues hydrauliques	H.P.	3,416,018	2,707,957	2,282,547	2,112,289	1,826,357	87.0
Steam reciprocating engines	No.	147	147	159	175	187	—21.4
Machines à vapeur	H.P.	34,230	33,876	37,116	40,484	45,450	—24.7
Steam turbines	No.	43	40	38	41	43	0.0
Turbines à vapeur	H.P.	101,457	90,617	87,767	89,545	90,705	11.9
Internal combustion engines	No.	306	271	262	225	203	50.7
Moteurs à gaz et à pétrole	H.P.	17,822	17,000	16,415	16,080	15,345	16.1
Total in commercial stations	H.P.	2,243,318	1,701,393	1,451,498	1,565,229	1,443,533	55.4
Total dans les usines commerciales							
Total in municipal stations	H.P.	1,326,209	1,147,657	972,347	693,169	534,324	—148.2
Total dans les usines municipales							
Total secondary power	K.V.A.	2,844,709	2,282,046	1,862,195	1,736,199	1,475,610	92.8
Total force motrice secondaire							
Dynamos, A.C.	No.	935	881	863	857	841	11.2
Dynamos, C.A.	K.V.A.	2,835,742	2,273,461	1,852,746	1,725,831	1,464,022	93.7
Dynamos, D.C.	No.	231	206	208	181	172	34.3
Dynamos, C.D.	K.W.	8,967	8,585	9,449	10,368	11,588	—22.6
Total in commercial stations	K.V.A.	1,803,545	1,400,871	1,140,945	1,210,947	1,086,128	66.1
Total dans les usines commerciales							
Total in municipal stations	K.V.A.	1,041,164	880,575	720,900	525,252	389,482	167.3
Total dans les usines municipales							

†Includes only—Wages, cost of fuel, taxes and cost of power.

‡Comprend seulement les appointements et salaires, le coût du combustible, taxes, et de la force motrice.

*Includes estimates for stations not reporting output.

*Comprend l'estimation des stations qui ne font pas connaître leur production.

Table 2—Summary of Principal Data, 1925-1924

	Total		Commercial — Commerciales		Municipal — Municipales	
	1925	1924	1925	1924	1925	1924
	1	2	3	4	5	6
Total Number of Electric Power Plants...	563	532	365	333	198	199
No. of hydraulic plants.....	284	273	204	195	80	78
No. of fuel plants.....	279	259	161	138	118	121
Total Capital.....	726,721,087	628,565,093	409,862,801	326,554,580	316,858,286	302,010,513
Land, buildings, equipment, etc.....	676,677,980	580,769,137	382,227,013	306,556,636	294,450,976	274,212,501
Materials on hand, cash trading accounts etc.	50,043,098	47,795,956	27,635,788	19,997,944	22,407,310	27,798,012
Total Gross Revenue from Sale of Electric Energy.....	102,587,882	95,169,768	51,576,627	47,529,216	51,011,255	47,640,552
For lighting purposes.....	38,829,161	36,011,117	16,468,203	15,463,296	22,360,958	20,547,821
For all other purposes.....	63,758,721	59,158,651	35,108,424	32,065,920	28,650,297	27,092,731
Net revenue.....	79,341,584	74,616,863	42,195,543	39,033,665	37,146,041	35,583,198
Expenses.....	47,635,531	40,887,779	21,325,649	16,777,557	26,309,882	24,110,222
Salaries and wages.....	18,755,907	17,946,584	7,827,114	7,296,135	10,928,793	10,650,451
Fuel.....	2,266,236	2,388,290	1,023,593	985,873	1,242,643	1,402,417
Cost of power.....	23,246,298	20,552,905	9,381,084	8,495,551	13,865,214	12,057,354
Taxes.....	3,367,090	—	3,093,858	—	273,232	—
Total Number of Employees.....	13,263	12,956	6,141	5,849	7,122	7,107
Total Mileage of Pole Lines.....	27,653	26,654	13,047	12,102	14,006	14,552
For transmission.....	9,791	9,147	5,221	4,809	4,570	4,338
For distribution.....	17,862	17,507	7,826	7,293	10,036	10,214
Total Number of Customers.....	1,297,731	1,200,950	559,172	521,064	720,559	679,886
Domestic light.....	1,063,530	980,510	453,324	422,464	605,206	567,046
Commercial light.....	180,994	176,444	84,052	81,700	96,942	94,744
Power.....	35,207	34,996	16,796	16,900	18,411	18,096
Total K,W,Hrs, Generated (Thousands).....	10,110,459	9,315,277	6,527,103	6,024,312	3,583,356	3,290,965
Total Power (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1925	1924	1925	1924	1925	1924
	1	2	3	4	5	6
Total Primary Power..... H,P,	3,569,527	2,849,459	2,243,315	1,701,793	1,326,209	1,147,657
Water Wheels and turbines..... No.	710	667	512	482	198	185
..... H.P.	3,416,018	2,707,957	2,212,813	1,673,298	1,203,205	1,034,639
Steam reciprocating engines..... No.	147	147	73	67	74	80
..... H.P.	34,230	33,876	14,552	13,463	19,678	20,413
Steam turbines..... No.	43	40	13	12	30	28
..... H.P.	101,457	90,617	10,384	10,259	91,073	80,358
Gas and oil engines..... No.	306	271	187	154	119	117
..... H.P.	17,822	17,000	5,569	4,773	12,253	12,227
Total Secondary Power..... K,V,A	2,844,709	2,282,046	1,803,545	1,401,471	1,041,164	880,575
Dynamos, A.C..... No.	935	881	561	520	374	361
..... K,V,A	2,835,742	2,273,461	1,797,856	1,396,205	1,037,886	877,256
Dynamos, D.C..... No.	231	206	188	161	43	45
..... K.W.	8,967	8,585	5,689	5,266	3,278	3,319

Tableau 2—Résumé comparatif des données principales, 1925-1924

Generating Productions		Non-Generating Non-productrices		Per Cent of Column 1 Pour cent de la 1ère col.						
1925	1924	1925	1924	Com- mer- ciales 1925	Mu- nici- pales 1925	Gene- rating Prod. 1925	Non Gen. Non- prod. 1925			
7	8	9	10	11	12	13	14			
563	532	—	—	64.83	35.17	100.00	—	Nombre d'usines génératrices, Nombre d'usines hydrauliques. Nombre d'usines à combustible.		
284	273	—	—	71.84	28.16	100.00	—			
279	259	—	—	57.71	42.29	100.00	—			
625,970,883	532,016,164	100,759,204	96,548,929	56.40	43.60	86.14	13.86	Total des capitaux, Terrains, bâtiments, aménagements, etc.		
593,038,878	506,312,147	83,639,111	74,456,990	56.49	43.51	87.64	12.36			
32,932,005	25,704,017	17,111,093	22,091,939	55.22	44.78	65.81	34.19	Matières premières en stock, fonds en caisse, créances à recouvrer, etc. Total des recettes brutes par l'électri- cité vendue,		
70,278,288	65,602,441	32,309,594	29,567,327	50.28	49.72	68.51	31.49			
19,856,428	18,711,610	18,972,733	17,299,507	42.41	57.59	51.14	48.86	Pour éclairage. Pour tous autres usages. Revenu net.		
50,421,860	46,890,831	13,336,861	12,267,820	55.06	44.94	79.08	20.92			
63,547,553	59,861,915	15,794,031	14,754,948	53.18	46.82	80.09	19.91	Dépenses, Traitements, appoint. et salaires. Combustible. Achat de force motrice électrique. Impôts.		
24,857,279	20,198,257	22,778,252	20,689,522	44.77	55.23	52.18	47.82			
12,716,941	12,079,462	6,038,966	5,867,122	41.73	58.27	67.80	32.20	Nombre total du personnel,		
2,231,770	2,378,269	34,466	10,021	45.17	54.83	98.48	1.52			
6,730,735	5,740,526	16,515,563	14,812,379	40.36	59.64	28.95	71.05	Long. en milles des lignes sur poteaux De transmission. De distribution.		
3,177,833	—	189,257	—	91.89	8.11	94.38	5.62			
8,857	8,630	4,406	4,326	46.30	53.70	66.78	33.22	Nombre total des abonnés des usines, Eclairage, commerçants. Eclairage, particuliers. Force motrice.		
18,372	17,340	9,281	9,314	47.18	52.82	66.44	33.56			
8,870	8,317	921	830	53.32	46.68	90.59	9.41	Total des kilowatt-heures produits (milliers),		
9,502	9,023	8,360	8,484	43.81	56.19	53.20	46.80			
653,032	610,206	626,699	590,744	43.69	56.31	51.03	48.97			
546,213	503,780	517,317	485,730	43.09	56.91	51.36	48.64			
88,749	87,659	92,245	88,785	46.44	53.56	49.03	50.97			
18,070	18,767	17,137	16,229	47.71	52.29	51.33	48.67			
10,102,583	9,308,366	7,876	6,911	64.56	35.44	99.92	0.08			
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)								Total Power Equipment in Auxiliary Plants		
Per Cent of Cols. 1 & 2 — Pourcent des col. 1 et 2				Per cent of Totals of Columns 3, 4, 5 & 6 — Pourcent des col. 3, 4, 5 et 6					Machines des usines auxiliaires	
Commercial		Municipal		Commercial		Municipal				
1925	1924	1925	1924	1925	1924	1925	1924			
62.9	59.7	37.1	40.3	100.0	100.0	100.0	100.0	173,170		168,102	Total force motrice primaire. H.P.,
72.1	72.3	27.9	27.7	—	—	—	—	—	—	Turbines et roues hydrauliques nomb. H.P.
64.8	61.8	35.2	38.2	98.6	98.3	90.7	90.1	—	—		Machines à vapeur..... nomb. H.P.
49.7	45.6	50.3	54.4	—	—	—	—	54	49	Turbines à vapeur..... nomb. H.P.
42.5	39.7	57.5	60.3	00.6	00.8	1.5	1.8	23,389	22,911		Moteurs à gaz et à pétrole..... nomb. H.P.
30.2	30.0	69.8	70.0	—	—	—	—	37	34	Total force motrice secondaire. K,V,A,
10.2	11.3	89.8	88.7	00.5	00.6	6.9	7.0	147,415	143,950		Dynamos, C.A..... nomb. K.V.A.
61.1	56.8	38.9	43.2	—	—	—	—	14	11	Dynamos, C.D..... nomb. K.W.
31.3	28.1	68.7	71.9	00.3	00.3	0.9	1.1	2,366	1,241	
63.3	61.4	36.7	38.6	100.0	100.0	100.0	100.0	142,421	136,755	
60.0	59.0	40.0	41.0	—	—	—	—	90	78	
63.4	61.4	36.6	38.6	99.7	99.6	99.7	99.6	140,146	134,830	
81.4	78.2	18.6	21.8	—	—	—	—	6	6	
63.4	61.3	36.6	38.7	0.3	0.4	0.3	0.4	2,275	1,925	

Table 3—Electric Power Plants—Municipalities served, 1925

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
Total Number of Power Generating Stations.....	563	9	38	21	106	121
Per cent of total for Canada.....	100.00	1.60	6.75	3.73	18.83	21.49
Commercial.....	365	7	21	14	88	75
Hydraulic.....	204	6	10	5	85	69
Fuel.....	161	1	11	9	3	6
Municipal.....	198	2	17	7	18	46
Hydraulic.....	80	—	12	3	14	40
Fuel.....	118	2	5	4	4	6
With water wheels and turbines only.....	249	4	19	8	91	99
With water wheels, turbines and fuel auxiliary.....	35	2	3	—	8	10
With steam engines only.....	78	—	8	7	2	—
With steam turbines only.....	8	—	3	1	1	—
With gas or oil engines only.....	174	2	2	3	3	6
With both steam engines and turbines.....	11	—	2	1	1	—
With both steam and gas or oil engines.....	7	1	1	1	—	—
With both steam turbines and gas or oil engines.....	1	—	—	—	—	—
With alternating current dynamos only.....	411	8	34	16	100	107
With direct current dynamos only.....	145	1	3	4	4	13
With both alternating and direct current dynamos.....	7	—	1	1	2	1
Commercial Organizations.....	423	8	38	25	99	79
Number generating power.....	332	7	20	14	69	65
Number buying power for redistribution.....	91	1	18	11	30	14
Municipalities.....	522	2	26	14	41	306
Number generating power.....	169	2	15	7	15	23
Number buying power for redistribution.....	353	—	11	7	26	283
Cities, Towns and Villages served						
No.....	1,400	14	93	61	398	464
Population.....	5,458,553	23,597	265,182	185,645	1,805,328	1,953,938
Ratio of total population (per cent).....	58.00	27.00	49.00	46.00	72.00	63.00
By commercial organizations—						
No.....	777	12	51	41	348	107
Population.....	2,548,285	19,275	111,370	82,895	1,610,252	165,070
By municipal systems—						
No.....	599	2	42	18	50	348
Population.....	2,219,656	4,322	153,812	34,000	195,076	1,436,554
By both—						
No.....	14	—	—	2	—	9
Population.....	690,612	—	—	68,750	—	352,314
By hydraulic stations—						
No.....	1,070	11	68	35	389	449
Population.....	4,667,581	6,075	142,794	67,072	1,741,036	1,935,846
By fuel stations—						
No.....	328	3	35	25	9	15
Population.....	652,422	17,522	122,388	50,023	64,292	18,092
By both hydro and fuel—						
No.....	2	—	—	1	—	—
Population.....	138,550	—	—	68,550	—	—

Tableau 3—Usines génératrices—Municipalités desservies, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
25 4-62	131 23-27	66 11-72	43 7-64	2 -35	Nombre d'usines génératrices. Pourcentage dans chaque province.
12	81	37	28	2	Usines commerciales.
3	-	4	21	1	Hydrauliques.
9	81	33	7	1	A combustible.
14	50	29	15	-	Usines municipales.
2	-	1	8	-	Hydrauliques.
12	50	28	7	-	A combustible.
1	-	1	22	1	Avec roues et turbines hydrauliques seulement.
4	-	1	7	-	Avec roues et turbines hydrauliques plus usines auxiliaires.
10	10	27	7	1	Avec machines à vapeur seulement.
11	115	25	7	-	Avec turbines à vapeur seulement.
-	3	4	-	-	Avec moteurs à gaz ou à pétrole seulement.
-	-	4	-	-	Avec machines et turbines à vapeur à la fois.
-	-	1	-	-	Avec machines à vapeur, à gaz et à pétrole.
-	-	-	-	-	Avec turbines à vapeur et moteurs à gaz à pétrole.
16	49	42	38	1	Avec dynamos à courant alternatif seulement.
10	82	22	5	1	Avec dynamos à courant direct seulement.
-	-	2	-	-	Avec dynamos à courant alternatif et direct.
16	81	42	32	3	Usines commerciales.
12	81	36	26	2	Nombre d'usines génératrices.
4	-	6	6	1	Nombre d'usines achetant de l'électricité pour la revendre.
20	53	33	27	-	Municipalités.
13	50	29	15	-	Nombre d'usines génératrices.
7	3	4	12	-	Nombre d'usines achetant de l'électricité pour la revendre.
57	133	78	90	2	Cités, villes et villages desservis— Nombre.
335,127	188,790	225,155	474,391	1,400	Population.
51-00	23-00	35-00	85-00	40-00	Pour cent de la population totale.
20	81	47	59	2	Par des usines commerciales.
100,392	36,807	34,452	386,372	1,400	Nombre.
27	52	30	30	-	Population.
39,587	151,983	120,703	83,619	-	Par des usines municipales.
1	-	1	1	-	Nombre.
195,148	-	70,000	4,400	-	Population.
33	-	10	74	-	Par usines commerciales et municipales.
311,876	-	8,420	453,462	1	Nombre.
24	133	67	16	1,000	Population.
23,251	188,790	146,735	20,929	1	Par usines à combustible.
-	-	1	-	400	Nombre.
-	-	70,000	-	-	Population.
-	-	-	-	-	Par usines hydrauliques et à combustible.
-	-	-	-	-	Nombre.
-	-	-	-	-	Population.

Table 4—Capital, 1925

	Canada	Prince Edward Is. Île du Prince Édouard	Nova Scotia Nouvelle- Écosse	New Brunswick Nouveau Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Total Capital	726,721,087	525,488	11,913,291	10,007,553	225,333,339	356,375,495
Per cent of total for Canada.....	100-00	-07	1-61	1-38	31-00	49-04
Generation.....	436,823,979	357,034	6,405,536	5,805,061	160,377,658	198,587,476
Transmission.....	103,968,467	—	2,551,220	1,254,819	23,734,021	62,644,480
Distribution.....	130,114,196	133,243	2,451,135	2,387,955	27,371,034	67,341,189
General.....	55,814,445	35,211	505,400	559,718	13,850,626	27,802,350
Total Capital in Commercial Stations	499,862,861	430,375	5,717,731	5,010,154	218,587,222	94,615,604
Generation.....	275,897,440	294,100	2,046,641	3,179,540	157,140,212	65,750,026
Transmission.....	47,814,764	—	1,778,445	250,855	23,498,911	11,488,014
Distribution.....	54,792,100	107,050	1,629,881	1,238,371	24,526,889	10,626,890
General.....	31,358,497	29,225	262,763	341,388	13,421,210	6,750,674
Non-generating stations.....	26,845,626	***	2,638,314	689,222	7,470,188	2,686,712
Generating stations.....	383,017,175	***	3,079,416	4,320,932	211,117,034	91,928,892
Hydraulic stations.....	376,438,971	***	1,611,204	1,692,680	211,071,719	91,896,215
Fuel stations.....	6,578,204	***	1,468,212	2,628,252	45,315	32,677
Total Capital in Municipal Stations	316,858,286	***	6,195,561	4,997,399	6,746,117	261,759,891
Generation.....	160,926,539	***	4,358,895	2,625,521	3,237,446	182,837,450
Transmission.....	56,153,703	***	772,775	1,003,964	235,110	51,156,466
Distribution.....	75,792,096	***	821,254	1,149,584	2,844,145	56,714,299
General.....	24,455,948	***	242,637	218,330	429,416	21,051,676
Non-generating stations.....	73,904,578	***	693,057	1,065,833	1,212,321	69,037,675
Generating stations.....	242,953,708	***	5,502,504	3,931,566	5,533,796	192,722,216
Hydraulic stations.....	223,892,813	***	4,945,921	3,769,169	4,192,166	192,568,299
Fuel stations.....	19,060,895	***	556,583	162,397	1,341,630	153,917
Total Capital in Non-generating Stations	100,759,204	***	3,331,371	1,755,655	8,682,599	71,724,387
Generation.....	3,637,225	***	621,512	220,000	2,527,033	—
Transmission.....	6,100,743	***	1,021,533	170,875	1,149,026	2,077,478
Distribution.....	72,892,549	***	1,549,712	1,176,945	3,805,946	56,010,881
General.....	18,119,687	***	138,614	187,235	1,200,504	13,636,028
Total Capital in Generating Stations	625,970,883	***	8,581,920	8,252,498	216,659,830	284,651,108
Generation.....	433,186,754	***	5,784,024	5,585,061	157,850,625	198,587,476
Transmission.....	97,867,724	***	1,529,687	1,083,944	22,584,995	60,567,002
Distribution.....	57,221,647	***	901,423	1,211,010	23,565,088	11,330,308
General.....	37,694,758	***	366,786	372,483	12,650,122	14,166,322
Hydraulic Stations.....	600,331,784	***	6,557,125	5,461,849	215,263,885	284,464,514
Generation.....	418,593,528	***	4,779,781	3,810,622	157,443,075	198,474,038
Transmission.....	97,399,640	***	1,241,151	1,083,944	22,584,995	60,566,502
Distribution.....	48,189,084	***	405,398	435,985	22,710,247	11,267,682
General.....	36,149,532	***	130,795	131,298	12,525,568	14,156,292
Fuel Stations.....	25,639,099	***	2,024,795	2,790,649	1,386,945	186,594
Generation.....	14,593,226	***	1,004,243	1,774,439	407,550	113,438
Transmission.....	468,084	***	288,536	—	—	500
Distribution.....	9,032,563	***	496,025	775,025	854,841	62,626
General.....	1,545,226	***	235,991	241,185	124,554	10,030
TOTAL CAPITAL						
Average per H.P. of Primary Power.....	204	270	289	333	159	244
Average per H.P. including Auxiliary equipment.....	194	261	228	307	156	233
Average per K.V.A. of Dynamo Capacity.....	255	339	353	434	199	303
Average per K.V.A. including Auxiliary equipment.....	243	339	273	405	195	290
Generation						
Average Cost per H.P. (including aux. equip.).....						
In all generating stations.....	117	177	139	186	116	130
In Hydraulic stations.....	117	129	151	187	117	139
In fuel stations.....	96	186	101	184	104	73
Transmission Lines						
Average per pole line mile.....	10,620	—	12,950	4,880	9,280	12,950
Distribution Lines						
Average per pole line mile.....	7,280	1,650	2,720	3,530	7,890	8,670

Tableau 4—Capitaux, 1925

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	
35,610,354 4.90	8,761,597 1.20	14,946,921 2.06	61,891,416 8.52	1,355,633 .19	Total des capitaux. Pourcentage dans chaque province.
10,308,363	5,381,220	8,963,727	30,575,778	1,062,126	Génération.
3,684,527	30,000	1,571,096	8,337,641	160,663	Transmission.
10,358,814	2,935,082	3,647,173	13,437,416	21,155	Distribution.
2,258,650	415,295	764,925	9,510,581	111,689	Généralités.
17,712,666	851,974	6,769,323	58,812,120	1,355,633	Total des capitaux dans les usines commerciales.
12,373,086	560,185	4,512,428	28,979,096	1,062,126	Génération.
1,067,423	—	1,427,660	8,142,793	160,663	Transmission.
3,718,981	212,121	374,787	12,335,975	21,155	Distribution.
553,176	79,668	454,448	9,354,256	111,689	Généralités.
669,122	—	135,008	12,410,101	140,159	Non-productrices.
17,043,544	851,974	6,634,315	46,402,019	1,215,474	Productrices.
16,992,897	—	5,567,581	46,342,386	1,206,714	Hydrauliques.
50,647	851,974	1,066,734	59,633	8,760	A combustible.
17,897,688	7,999,623	8,177,598	3,079,296	—	Total des capitaux dans les usines municipales.
6,935,277	4,821,035	4,451,299	1,596,682	—	Génération.
2,617,104	30,000	143,436	194,848	—	Transmission.
6,659,893	2,722,961	3,272,386	1,131,441	—	Distribution.
1,705,474	335,627	310,477	156,325	—	Généralités.
1,187,379	23,330	36,780	648,203	—	Non-productrices.
16,710,309	7,886,293	8,140,818	2,431,093	—	Productrices.
16,277,279	—	237,481	1,902,498	—	Hydrauliques.
433,030	7,886,293	7,903,337	528,595	—	A combustible.
1,856,501	23,330	171,788	13,053,394	***	Total des capitaux dans les usines non-productrices.
155,000	—	16,201	69,567	***	Génération.
510,820	—	36,540	1,134,471	***	Transmission.
985,423	21,581	106,884	9,209,040	***	Distribution.
205,258	1,749	12,163	2,645,226	***	Généralités.
33,738,853	8,738,267	14,775,133	43,833,112	***	Total des capitaux dans les usines productrices.
19,153,363	5,381,220	8,947,526	30,506,211	***	Génération.
3,173,707	30,000	1,534,556	7,203,170	***	Transmission.
9,373,391	2,913,501	3,540,289	4,258,376	***	Distribution.
2,053,392	413,546	752,762	6,865,355	***	Généralités.
33,270,176	—	5,805,062	48,244,884	***	Hydrauliques.
18,865,571	—	4,002,259	30,148,644	***	Génération.
3,173,707	—	1,385,508	7,203,170	***	Transmission.
9,213,680	—	76,500	4,061,192	***	Distribution.
2,017,218	—	340,785	6,831,878	***	Généralités.
483,677	8,738,267	8,970,071	589,228	***	A combustible.
287,792	5,381,220	4,945,257	357,567	***	Génération.
—	30,000	149,048	—	***	Transmission.
159,711	2,913,501	3,463,789	197,184	***	Distribution.
36,174	413,546	411,977	33,477	***	Généralités.
CAPITAL TOTAL					
228	137	165	237	***	Moyenne par H.P. de la machinerie d'énergie primaire.
193	136	157	187	***	Moyenne par H.P. y compris machinerie auxiliaire.
287	165	211	276	***	Moyenne par K.V.A. de la capacité des dynamos.
237	165	195	251	***	Moyenne par K.V.A. y compris machinerie auxiliaire.
Génération					
104	84	94	93	***	Moyenne par H.P. y compris machinerie auxiliaire.
104	—	105	91	***	Dans les usines productrices.
107	84	87	139	***	Dans les usines hydrauliques.
Lignes de transmission,					
7,990	3,000	6,000	7,270	***	Moyenne par mille de ligne sur poteaux.
Lignes de distribution.					
9,340	3,970	4,200	6,020	***	Moyenne par mille de ligne sur poteaux.

Table 5—Revenue, 1925

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
GROSS REVENUES	\$	\$	\$	\$	\$	\$
Gross Revenue from Sale of Electric Energy.	102,587,882	132,573	2,559,231	1,624,445	28,129,838	49,651,990
Per cent of total for Canada.....	100.00	13	2.49	1.58	27.42	48.40
For lighting purposes.....	38,829,161	115,274	1,456,305	904,029	9,030,077	15,976,430
For all other purposes.....	63,758,721	17,299	1,102,926	720,416	19,099,761	33,675,560
Gross Revenue of Commercial Stations....	51,576,627	104,202	1,570,406	903,006	26,654,776	10,219,594
For lighting purposes.....	16,468,203	90,152	1,027,353	532,338	7,881,420	1,818,925
For all other purposes.....	35,108,424	14,050	543,053	370,668	18,773,356	8,400,669
Non generating.....	7,815,859	799	815,809	247,354	1,789,841	1,287,268
Generating.....	43,760,768	103,403	754,597	655,652	24,864,935	8,932,326
Hydraulic.....	41,975,931	10,899	203,315	308,816	24,852,225	8,915,531
Fuel.....	1,784,837	92,504	551,282	346,836	12,710	16,795
Gross Revenue of Municipal Stations.....	51,011,255	***	988,825	721,439	1,475,062	39,432,396
For lighting purposes.....	22,360,958	***	428,952	371,691	1,148,657	14,157,505
For all other purposes.....	28,650,297	***	559,873	349,748	326,405	25,274,891
Non generating.....	24,493,735	***	310,215	336,346	379,052	22,749,216
Generating.....	26,517,520	***	678,610	385,093	1,096,010	16,683,180
Hydraulic.....	20,529,681	***	501,655	341,659	735,661	16,607,156
Fuel.....	5,987,839	***	176,955	43,434	360,349	76,024
Gross Revenue of Non-generating Stations	32,349,594	***	1,126,024	533,700	2,168,893	24,036,484
For lighting purposes.....	18,972,733	***	775,061	455,819	977,290	13,632,643
For all other purposes.....	13,336,861	***	350,963	127,881	1,191,603	10,403,841
Gross Revenue of Generating Stations....	70,278,288	***	1,433,207	1,040,745	25,960,945	25,615,506
For lighting purposes.....	19,856,428	***	681,244	448,210	8,052,787	2,343,787
For all other purposes.....	50,421,860	***	751,963	592,535	17,908,158	23,271,719
Gross Revenue of Hydraulic Stations.....	62,505,612	***	704,970	659,475	25,587,886	25,522,687
For lighting purposes.....	14,194,675	***	106,178	165,718	7,742,055	2,279,763
For all other purposes.....	48,310,937	***	538,792	484,757	17,845,831	23,242,924
Gross Revenue of Fuel Stations.....	7,772,676	***	728,237	390,270	373,059	92,813
For lighting purposes.....	5,661,753	***	515,066	282,492	310,732	64,024
For all other purposes.....	2,110,923	***	213,171	107,778	62,327	28,795
NET REVENUES						
Net revenue from sale of electric energy...	79,341,584	***	2,028,840	1,259,633	22,761,898	35,427,597
For lighting purposes.....	38,829,161	***	1,456,305	904,029	9,030,077	15,976,430
For power purposes.....	40,512,423	***	572,535	355,604	13,734,821	19,451,467
Net revenue of commercial stations.....	42,195,543	***	1,192,127	745,114	21,639,193	8,602,952
Net revenue of municipal stations.....	37,145,641	***	836,713	514,519	1,134,705	26,824,945
Net revenue of non-generating stations...	15,794,031	***	646,082	259,444	1,080,403	10,808,113
Net revenue of generating stations.....	63,547,553	***	1,382,758	1,000,189	21,684,495	24,619,784
Average net revenue per H.P. of primary power	22.23	67.88	49.21	41.96	16.09	24.24
Average net revenue per H.P. in main and auxiliary plants,	21.20	65.66	38.85	38.56	15.76	23.17
Average net revenue per K.V.A. of dynamo capacity,	27.89	85.42	60.08	54.61	20.10	30.14
Average net revenue per K.V.A. in main and auxiliary plants,	26.56	85.42	46.51	50.97	19.66	28.82
Average net revenue per K.W. hours of all stations (cents).	.78	8.04	3.37	3.02	.56	.78

Tableau 5—Recettes, 1925

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	RECETTES BRUTES
4,767,119	2,862,368	3,533,728	9,237,864	88,726	Recettes brutes provenant de la vente d'électricité.
4-65	2-79	3-45	9-00	-09	Pourcentage dans chaque province.
2,998,773	2,089,381	2,245,975	3,960,070	52,847	Pour l'éclairage.
1,768,346	772,987	1,287,753	5,277,794	35,879	Pour tous autres usages.
2,390,309	368,461	988,464	8,288,683	88,726	Recettes brutes des usines commerciales.
1,023,808	361,595	459,939	3,219,826	52,847	Pour l'éclairage.
1,366,501	6,866	528,525	5,068,857	35,879	Pour tous autres usages.
152,757	-	76,189	3,414,641	31,201	Non-productrices.
2,237,552	368,461	912,275	4,874,042	***	Productrices.
2,210,800	-	585,703	4,839,526	***	Hydrauliques.
26,752	368,461	326,572	34,516	***	A combustible.
2,376,810	2,493,967	2,545,264	949,181	-	Recettes brutes des usines municipales.
1,974,965	1,727,786	1,786,036	740,244	-	Pour l'éclairage.
401,845	766,121	759,228	208,937	-	Pour tous autres usages.
292,174	21,299	35,511	369,922	-	Non-productrices.
2,084,636	2,472,608	2,509,753	579,259	-	Productrices.
1,888,963	-	28,331	426,256	-	Hydrauliques.
195,673	2,472,608	2,481,422	153,003	-	A combustible.
444,931	21,299	111,700	3,784,563	***	Recettes brutes des usines non génératrices.
341,813	19,714	101,745	2,638,026	***	Pour l'éclairage.
103,118	1,585	9,955	1,146,537	***	Pour tous autres usages.
4,322,188	2,841,069	3,422,028	5,453,301	***	Recettes brutes des usines génératrices.
2,656,960	2,069,667	2,144,230	1,322,044	***	Pour l'éclairage.
1,665,228	771,402	1,277,798	4,131,257	***	Pour tous autres usages.
4,099,763	-	614,034	5,265,782	***	Hydrauliques.
2,480,472	-	182,953	1,152,559	***	Pour l'éclairage.
1,619,291	-	431,081	4,113,223	***	Pour tous autres usages.
222,425	2,841,069	2,807,994	187,519	***	A combustible.
176,488	2,069,667	1,961,277	169,485	***	Pour l'éclairage.
45,937	771,402	846,717	18,034	***	Pour tous autres usages.
RECETTES NETTES					
4,245,537	2,849,200	3,202,354	7,356,703	***	Recettes nettes provenant de la vente d'électricité.
2,998,773	2,089,381	2,245,975	3,960,070	***	Pour l'éclairage.
1,246,764	759,819	956,379	3,396,633	***	Pour force motrice.
1,959,199	368,461	960,980	6,558,366	***	Recettes nettes des usines commerciales.
2,286,338	2,480,739	2,241,374	798,337	***	Recettes nettes des usines municipales.
307,287	8,131	61,940	2,605,408	***	Recettes nettes des usines non génératrices.
3,938,250	2,841,069	3,140,414	4,751,295	***	Recettes nettes des usines génératrices.
27-28	44-29	35-41	24-55	***	Moyenne des recettes nette par h.p. de machinerie primaire.
22-97	44-29	33-68	22-44	***	Moyenne des recettes nettes par h.p. des usines principales et auxiliaires.
34-21	53-79	45-08	32-76	***	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos.
28-31	53-79	42-69	29-83	***	Moyenne des recettes nettes par K.V.A. des usines principales et auxiliaires.
-82	4-29	2-47	1-01	***	Moyenne des recettes nettes par K.W. heure (cents) De toutes les usines.

Table 6—Expenses, 1925

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
*Total Expenses.....	47,635,531	68,044	1,363,405	875,912	10,884,493	25,158,200
Per cent of total for Canada.....	100.00	0.14	2.86	1.84	22.85	52.81
Salaries and wages.....	18,755,907	31,908	541,772	321,407	3,681,905	9,657,160
Fuel.....	2,266,236	32,603	210,576	145,870	47,117	240,428
Taxes.....	3,367,090	3,194	80,666	43,823	1,790,531	1,036,519
Cost of power.....	23,246,298	339	530,391	364,812	5,364,940	14,224,093
*Total for Commercial Stations.....	21,325,619	53,648	961,343	548,493	10,231,951	4,303,991
Salaries and wages.....	7,827,114	25,196	337,573	217,065	3,406,656	1,650,490
Fuel.....	1,025,593	24,919	164,850	129,813	13,408	207,844
Taxes.....	3,093,858	3,194	80,611	43,723	1,787,304	829,015
Cost of power.....	9,381,084	339	378,279	157,892	5,024,583	1,616,642
Non-generating stations.....	4,983,433	***	558,990	176,059	1,065,864	1,134,513
Generating Stations.....	16,337,216	***	402,353	372,434	9,166,087	3,169,478
Hydraulic Stations.....	15,206,154	***	65,005	103,665	9,159,395	3,162,013
Fuel Stations.....	1,131,062	***	337,348	268,769	6,692	7,465
*Total for Municipal Stations.....	26,309,882	***	402,062	327,419	652,542	20,854,209
Salaries and wages.....	10,928,793	***	204,199	104,342	275,249	8,006,670
Fuel.....	1,242,643	***	45,696	16,057	33,709	32,584
Taxes.....	273,232	***	55	100	3,227	207,504
Cost of power.....	13,865,214	***	152,112	206,920	340,357	12,607,451
Non-generating Stations.....	17,789,819	***	189,646	262,766	256,355	16,740,494
Generating Stations.....	8,520,063	***	212,416	64,653	396,187	4,113,715
Hydraulic Stations.....	5,498,972	***	120,094	40,873	172,225	4,062,999
Fuel Stations.....	3,021,091	***	92,322	23,780	223,962	50,716
*Total Expenses for Non-generating Sta- tions.....	22,778,252	***	748,636	438,825	1,322,219	17,875,007
Salaries and wages.....	6,038,966	***	184,363	105,480	217,840	4,542,503
Fuel.....	34,466	***	27,717	2,022	—	1,881
Taxes.....	189,257	***	56,614	7,067	15,889	102,252
Cost of power.....	16,515,563	***	479,942	324,256	1,088,490	13,228,371
*Total Expenses for Generating Stations.....	24,857,279	***	614,769	437,087	9,562,274	7,283,193
Salaries and wages.....	12,716,941	***	357,409	215,927	3,464,065	5,114,657
Fuel.....	2,231,770	***	182,859	143,848	47,117	238,547
Taxes.....	3,177,833	***	24,052	36,756	1,774,642	934,267
Cost of power.....	6,730,735	***	50,449	40,556	4,276,450	995,722
Hydraulic Stations.....	20,705,126	***	185,099	144,538	9,331,620	7,225,012
Fuel Stations.....	4,152,153	***	429,670	292,549	230,654	58,181

*These are not the total operating expenses, but the totals of only the four accounts, salaries and wages, fuel, taxes and cost of power.

Table 7—Employees, 1925

	13,263	32	4,571	2,811	3,235	6,290
Per cent of total for Canada.....	100.00	0.24	3.45	2.12	24.39	47.43
Officers, clerks, others salaried employees, etc.....	5,726	17	179	131	1,363	2,785
Employees on wages.....	7,537	15	278	150	1,872	3,505
Total Employees in Commercial Stations.....	6,141	22	280	193	3,010	1,204
Officers, clerks, others salaried employees, etc.....	2,383	8	118	61	1,265	337
Employees on wages.....	3,758	14	162	132	1,745	867
Non-generating.....	923	—	115	42	152	74
Generating.....	5,218	22	165	151	2,858	1,130
Hydraulic.....	4,778	5	54	49	2,855	1,126
Fuel.....	440	17	111	102	3	4
Total Employees in Municipal Stations.....	7,122	10	177	88	225	5,086
Officers, clerks, others salaried employees, etc.....	3,343	9	61	70	98	2,448
Employees on wages.....	3,779	1	116	18	127	2,638
Non-generating.....	3,483	—	37	55	51	3,246
Generating.....	3,639	10	140	33	174	1,840
Hydraulic.....	2,717	—	103	24	112	1,819
Fuel.....	922	10	37	9	62	21
Total Employees in Non-Generating Sta- tions.....	4,406	—	152	97	203	3,320
Officers, clerks, others salaried employees, etc.....	2,211	—	88	65	109	1,621
Employees on wages.....	2,195	—	64	32	94	1,699
Total Employees in Generating Stations.....	8,857	32	395	184	3,032	2,970
Officers, clerks, others salaried employees, etc.....	3,515	17	91	66	1,254	1,164
Employees on wages.....	5,342	15	214	118	1,778	1,806
Hydraulic.....	7,495	5	157	73	2,967	2,945
Fuel.....	1,362	27	148	111	65	25

Tableau 6—Dépenses, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	
2,130,087 4-47	1,424,805 2-99	1,686,456 3-54	3,994,261 8-39	49,868 -11	*Total des dépenses. Pourcentage dans chaque province.
1,341,313	605,884	857,138	1,691,145	26,275	Traitements, appointements et salaires.
203,686	759,346	457,871	160,980	7,759	Combustible
63,506	46,407	40,073	260,975	1,396	Taxes.
521,582	13,168	331,374	1,881,161	14,438	Achat d'énergie électrique.
989,735	219,805	497,852	3,558,963	49,868	*Total pour les usines commerciales.
352,626	86,596	252,188	1,472,449	26,275	Traitements, appointements et salaires.
142,746	126,334	107,614	98,276	7,759	Combustible.
63,253	6,875	20,566	257,921	1,396	Taxes.
431,110	—	27,484	1,730,317	14,438	Achat d'énergie électrique.
91,593	—	43,629	1,894,077	***	Usines non productrices.
898,142	219,805	364,223	1,664,886	***	Usines productrices.
878,601	—	169,285	1,648,858	***	Usines hydrauliques.
19,541	219,805	194,938	16,028	***	Usines à combustible.
1,140,352	1,285,000	1,278,604	435,298	—	*Total pour les usines municipales.
988,687	519,288	604,950	218,696	—	Traitements, appointements et salaires.
60,940	633,012	350,257	62,704	—	Combustible.
253	39,532	19,507	3,054	—	Taxes.
90,472	13,168	303,890	150,844	—	Achat d'énergie électrique.
116,331	15,236	28,773	180,218	—	Usines non productrices.
1,024,021	1,189,764	1,249,831	255,080	—	Usines productrices.
917,653	—	10,140	174,978	—	Usines hydrauliques.
106,358	1,189,764	1,239,691	80,102	—	Usines à combustible.
207,924	15,236	72,492	2,074,295	***	*Total des dépenses pour les usines non-productrices.
65,988	2,068	21,675	894,124	***	Traitements, appointements et salaires.
—	—	36	—	***	Combustible.
4,292	—	931	1,016	***	Taxes.
137,644	13,168	49,760	1,179,155	***	Achat d'énergie électrique.
1,922,163	1,409,569	1,614,054	1,919,966	***	*Total des dépenses pour les usines productrices.
1,275,325	603,816	835,463	797,021	***	Traitements, appointements et salaires.
203,686	759,346	457,835	160,980	***	Combustible.
59,214	46,407	39,142	259,959	***	Taxes.
383,938	—	281,614	702,008	***	Achat d'énergie électrique.
1,796,264	—	179,425	1,823,836	***	Usines hydrauliques.
125,899	1,409,569	1,434,629	96,130	***	Usines à combustible.

*Ces totaux ne représentent pas les dépenses d'exploitation, mais les dépenses découlant des traitements et salaires, du combustible, taxes et de la force motrice.

Tableau 7—Personnel, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
872 6-57	441 3-35	573 4-32	1,067 8-04	12 0-09	Total du personnel occupé. Pourcentage au total dans chaque province.
360	219	241	426	5	Administrateurs, directeurs, commis et tous employés des bureaux.
512	225	332	641	7	Ouvriers et journaliers.
233	94	191	902	12	Personnel des usines commerciales.
97	65	67	360	5	Administrateurs, directeurs, commis et tous employés des bureaux.
136	29	124	542	7	Ouvriers et journaliers.
7	—	21	510	2	Non productrices.
226	94	170	392	10	Productrices.
217	—	82	383	7	Hydrauliques.
9	94	88	9	3	A combustible.
639	359	382	165	—	Personnel des usines municipales.
263	154	174	66	—	Administrateurs, directeurs, commis et autres employés des bureaux.
376	196	208	99	—	Ouvriers et journaliers.
47	3	7	37	—	Non productrices.
592	347	375	128	—	Productrices.
553	—	6	100	—	Hydrauliques.
39	347	369	28	—	A combustible.
54	3	28	547	2	Total du personnel des usines non productrices.
24	2	19	282	1	Administrateurs, directeurs, commis et tous employés des bureaux.
30	1	9	265	1	Ouvriers et journaliers.
818	441	545	520	10	Total du personnel des usines productrices.
336	217	222	144	4	Administrateurs, directeurs, commis et tous employés des bureaux.
482	224	323	376	6	Ouvriers et journaliers.
770	—	88	483	7	Hydrauliques.
48	441	457	37	3	A combustible.

CENSUS OF INDUSTRY

Table 8—Number of Customers, 1925

	Canada	Prince Edward Is. Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
Number of Customers	1,279,731	3,706	40,881	30,676	347,356	534,513
Per cent of total for Canada	100.00	0.29	3.19	2.40	27.14	41.77
Domestic light.....	1,063,530	2,813	32,159	24,483	297,965	441,622
Commercial light.....	180,994	782	7,273	5,367	40,892	78,415
Power.....	35,207	111	1,449	826	8,499	14,476
Total Number of Customers of Commer- cial Stations	559,172	3,026	27,460	17,927	306,519	61,392
Domestic light.....	458,324	2,208	21,260	13,735	261,224	45,495
Commercial light.....	84,052	627	5,035	3,588	37,524	13,456
Power.....	16,796	101	1,165	604	7,771	2,441
Non-generating.....	131,291	32	15,132	5,930	22,654	9,116
Generating.....	427,881	2,994	12,328	11,997	283,865	52,276
Hydraulic.....	393,144	541	2,486	3,286	283,413	52,052
Fuel.....	34,737	2,453	9,842	8,711	462	224
Total Number of Customers of Muni- cipal Stations	720,559	680	13,421	12,749	40,847	473,121
Domestic light.....	605,206	515	10,899	10,748	36,741	396,127
Commercial light.....	96,942	155	2,238	1,779	3,368	64,969
Power.....	18,411	10	284	222	728	12,035
Non-generating.....	495,408	—	5,898	9,651	14,622	447,450
Generating.....	225,151	680	7,523	3,098	26,215	25,671
Hydraulic.....	116,901	—	3,161	2,076	16,735	24,324
Fuel.....	108,250	680	4,362	1,022	9,480	1,347
Total Number of Customers of Non- Generating Stations	626,699	32	21,030	15,581	37,276	456,566
Domestic light.....	517,317	27	16,150	12,637	31,932	378,635
Commercial light.....	92,245	4	3,902	2,637	4,092	66,150
Power.....	17,137	1	978	307	1,252	11,781
Total Number of Customers of Generating Stations	653,032	3,674	19,851	15,095	310,080	77,947
Hydraulic Stations.....	519,045	541	5,647	5,362	300,148	76,376
Domestic light.....	431,635	394	4,654	4,572	256,890	61,660
Commercial light.....	64,800	132	836	680	36,152	12,040
Power.....	13,610	15	157	110	7,106	2,676
Fuel Stations.....	142,987	3,133	14,204	9,733	9,932	1,571
Domestic light.....	114,578	2,392	11,355	7,274	9,143	1,327
Commercial light.....	23,949	646	2,535	2,050	648	225
Power.....	4,460	95	314	409	141	19
Average Number of Domestic Light Customers per 100 of Population	11.36	3.22	5.99	6.07	11.82	14.23

Table 9—Pole Line Mileage, 1925

Pole Line Mileage	27,653	0.81	1,099	933	6,028	12,611
Per cent of total for Canada.....	100.00	0.29	3.98	3.37	21.80	45.60
For transmission.....	9,791	—	197	257	2,559	4,839
For distribution.....	17,862	81	902	676	3,469	7,772
Total Pole Line Mileage—Commercial Sta- tions	13,047	66	681	497	5,494	2,030
Non-generating.....	3,172	7	299	162	899	179
Generating.....	9,875	59	382	335	4,595	1,851
Hydraulic.....	8,968	29	146	98	4,584	1,843
Fuel.....	907	30	236	237	11	8
Total Pole Line Mileage—Municipal Sta- tions	14,606	15	418	436	534	10,581
Non-generating.....	6,109	—	145	145	234	5,109
Generating.....	8,497	15	273	291	300	5,472
Hydraulic.....	6,892	—	184	261	245	5,447
Fuel.....	1,605	15	89	30	55	25
Total Pole Line Mileage—Non-Generating Stations	9,281	7	444	307	1,133	3,388
Total Pole Line Mileage—Generating Sta- tion Stations	18,372	74	655	626	4,895	7,323
Hydraulic Stations.....	15,860	29	330	359	4,829	7,260
Fuel Stations.....	2,512	45	325	267	66	33

Tableau 8—Abonnés, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
102,831 8-03	44,394 3-47	57,435 4-49	117,457 9-18	482 -04	Nombre d'abonnés. Pourcentage du total pour le Canada.
86,616	34,188	46,332	96,996	356	Eclairage, particuliers.
13,269	8,475	9,307	17,100	114	Eclairage, commerçants.
2,946	1,731	1,796	3,361	12	Force motrice.
30,911 23,955 5,296 1,660	6,621 4,728 1,844 49	9,359 6,814 2,275 261	95,484 78,459 14,293 2,732	482 356 114 12	Nombre total des abonnés des usines commerciales. Eclairage, particuliers. Eclairage, commerçants. Force motrice.
5,267	—	1,719	71,100	341	Non productrices.
25,644	6,621	7,631	24,384	141	Productrices.
25,244	—	2,315	23,801	6	Hydrauliques.
400	6,621	5,316	533	135	A combustible.
71,920 62,661 7,973 1,286	37,773 29,460 6,631 1,682	48,085 39,518 7,032 1,535	21,973 18,537 2,807 629	— — — —	Nombre total des abonnés des usines municipales. Eclairage, particuliers. Eclairage, commerçants. Force motrice.
5,827	466	930	10,564	—	Non productrices.
66,093	37,307	47,155	11,409	—	Productrices.
62,490	—	580	7,535	—	Hydrauliques.
3,603	37,307	46,575	3,874	—	A combustible.
11,094 9,425 1,354 315	466 353 98 15	2,649 2,183 391 75	81,664 65,731 13,529 2,404	341 244 88 9	Nombre des abonnés des usines non productrices. Eclairage, particuliers. Eclairage, commerçants. Force motrice.
91,737 87,734 74,163 11,048 2,523	43,928 — — — —	51,786 2,895 1,748 1,014 133	35,793 31,336 27,552 2,897 887	141 6 2 1 3	Nombre total des abonnés des usines productrices. Hydrauliques. Eclairage, particuliers. Eclairage, commerçants. Force motrice.
4,003	43,928	51,891	4,457	135	A combustible.
3,028	33,835	42,401	3,713	110	Eclairage, particuliers.
867	8,377	7,902	674	25	Eclairage, commerçants.
108	1,716	1,588	70	—	Force motrice.
13-20	4-10	7-11	17-31	10-17	Moyenne des consommateurs d'éclairage électrique par 100 habitants.

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1925

1,570 5-68	749 2-71	1,130 4-09	3,383 12-23	69 0-25	Longueur totale en milles des lignes sur poteaux. Pourcentage dans chaque province.
461	10	262	1,147	59	Pour la transmission.
1,109	739	868	2,236	10	Pour la distribution.
771 172 599 579 20	195 — 195 — 195	423 74 349 199 150	2,821 1,374 1,447 1,429 18	69 6 63 61 2	Pour le service des usines commerciales. Non productrices. Productrices. Hydrauliques. A combustible.
799 217 582 515 67	551 14 540 — 540	707 20 687 15 672	562 225 337 225 112	— — — — —	Pour le service des usines commerciales. Non productrices. Productrices. Hydrauliques. A combustible.
389 1,181	14 735	94 1,036	1,599 1,784	6 63	Pour le service des usines non productrices. Pour le service des usines productrices.
1,094	—	214	1,654	61	Hydrauliques.
87	735	822	130	2	A combustible.

Table 10—Equipment, 1925
TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
Total Primary Power..... H.P.	3,742,697	2,014	52,228	32,670	1,444,166	1,529,334
Per cent of total for Canada.....	100.00	.05	1.40	.87	38.59	40.86
Water wheels and turbines..... No.	710	7	36	14	242	312
Total capacity..... H.P.	3,416,018	236	31,265	20,400	1,410,970	1,459,742
Steam engines..... No.	201	2	32	18	16	23
Total capacity..... H.P.	57,619	410	8,958	5,745	5,980	8,310
Steam turbines..... No.	80	—	10	5	8	10
Total capacity..... H.P.	248,872	—	11,545	5,075	26,965	60,750
Gas and oil engines..... No.	320	9	6	9	6	10
Total capacity..... H.P.	20,188	1,368	460	1,450	251	532
Total Dynamo Capacity..... K.V.A.	2,987,139	1,548	43,619	24,715	1,157,710	1,229,085
Per cent of total for Canada.....	100.00	.05	1.46	.83	38.76	41.14
Dynamos, A.C..... No.	1,025	14	78	40	250	318
Capacity..... K.V.A.	2,975,888	1,540	42,364	23,859	1,156,450	1,226,609
Dynamos, D.C..... No.	237	1	10	5	8	20
Capacity..... K.W.	11,242	8	1,255	856	1,260	2,476
Commercial Stations						
Total Primary Power..... H.P.	2,362,506	1,484	22,295	19,245	1,421,710	435,854
Water wheels and turbines..... No.	512	7	13	8	221	190
Total capacity..... H.P.	2,212,813	236	5,095	8,490	1,392,265	398,902
Steam engines..... No.	103	2	21	15	10	8
Total capacity..... G.P.	27,798	410	6,210	5,330	3,780	1,360
Steam turbines..... No.	39	—	7	5	7	4
Total capacity..... H.P.	115,809	5	10,800	5,075	25,625	35,500
Gas and oil engines..... No.	193	5	3	3	2	3
Total capacity..... H.P.	6,080	838	190	350	40	92
Total Dynamo Capacity..... K.V.A.	1,903,518	1,093	18,865	14,235	1,140,068	383,805
Dynamos, A.C..... No.	614	10	38	25	217	179
Capacity..... K.V.A.	1,897,679	1,075	17,975	13,435	1,138,818	383,039
Dynamos, D.C..... No.	189	1	8	4	6	14
Capacity..... K.W.	5,839	8	830	800	1,250	766
Municipal Stations						
Total Primary Power..... H.P.	1,380,197	530	29,933	13,425	22,456	1,093,480
Water wheels and turbines..... No.	198	—	23	6	21	122
Total capacity..... H.P.	1,203,205	—	26,170	11,910	18,705	1,060,840
Steam engines..... No.	98	—	11	3	6	15
Total capacity..... H.P.	29,821	—	2,748	415	2,200	6,950
Steam turbines..... No.	41	—	3	—	1	6
Total capacity..... H.P.	133,063	—	745	—	1,340	25,250
Gas and oil engines..... No.	127	4	3	6	4	7
Total capacity..... H.P.	14,108	530	270	1,100	211	440
Total Dynamo Capacity..... K.V.A.	1,083,612	465	24,514	10,490	17,642	845,280
Dynamos, A.C..... No.	411	4	40	15	33	139
Capacity..... K.V.A.	1,078,209	465	24,389	10,424	17,632	843,570
Dynamos, D.C..... No.	48	—	2	1	2	6
Capacity..... K.W.	5,403	—	425	56	10	1,710

Table 11—Auxiliary Plant Equipment, 1925

Total Primary Power..... H.P.	173,170	66	10,998	2,650	29,280	68,040
Per cent of total for Canada.....	100.00	0.04	6.35	1.53	16.91	39.29
Steam reciprocating engines..... No.	54	1	13	6	8	16
Total capacity..... H.P.	23,389	60	4,218	1,825	3,615	7,290
Steam turbines..... No.	37	—	2	—	6	10
Total capacity..... H.P.	147,415	—	6,700	—	25,500	60,750
Gas and oil engines..... No.	14	1	1	4	2	—
Total capacity..... H.P.	2,366	6	80	825	165	—
Total Secondary Power..... K.V.A.	142,421	—	9,851	1,647	25,180	53,978
Commercial Stations						
Total Primary Power..... H.P.	119,182	66	9,105	1,750	29,140	36,390
Steam reciprocating engines..... No.	30	1	6	4	8	5
Total capacity..... H.P.	13,246	60	2,325	1,450	3,615	890
Steam turbines..... No.	26	—	2	—	6	4
Total capacity..... H.P.	105,425	—	6,700	—	25,500	35,500
Gas and oil engines..... No.	6	1	1	2	1	—
Total capacity..... H.P.	511	6	80	300	25	—
Total Secondary Power..... K.V.A.	99,973	—	8,162	1,050	25,105	31,328
Municipal Stations						
Total Primary Power..... H.P.	53,988	—	1,893	990	140	31,650
Steam reciprocating engines..... No.	24	—	7	2	—	11
Total capacity..... H.P.	10,143	—	1,893	375	—	6,400
Steam turbines..... No.	11	—	—	—	—	6
Total capacity..... H.P.	41,990	—	—	—	—	25,250
Gas and oil engines..... No.	8	—	—	2	1	—
Total capacity..... H.P.	1,855	—	—	525	140	—
Total Secondary Power..... K.V.A.	42,448	—	1,689	597	75	22,650

Tableau 10—Machinerie, 1925
TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
184,794	64,331	95,086	327,854	10,220	Total force motrice primaire..... H.P.
4.94	1.72	2.54	8.76	27	Pourcentage dans chaque province.....
22	—	16	59	2	Turbines et roues hydrauliques..... Nomb.
152,925	—	33,520	296,960	10,000	Capacité totale..... H.P.
21	22	54	12	1	Machines à vapeur..... Nomb.
5,837	5,129	15,171	2,019	60	Capacité totale..... H.P.
6	15	15	10	1	Turbines à vapeur..... Nomb.
24,840	49,422	43,950	28,165	160	Capacité totale..... H.P.
19	191	53	17	—	Moteurs à gaz et à pétrole..... Nomb.
1,192	9,780	2,445	2,710	—	Capacité totale..... H.P.
149,942	52,973	75,010	246,348	6,180	Capacité des dynamos.
5.02	1.77	2.51	8.25	21	Pourcentage dans chaque province.....
51	88	90	93	3	Dynamos, C.A..... Nomb.
149,655	51,264	71,994	246,003	6,150	Capacité totale..... K.V.A.
14	128	42	7	2	Dynamos, C.D..... Nomb.
287	1,709	3,016	345	30	Capacité totale..... K.W.
92,136	4,438	42,900	312,224	10,220	Usines commerciales
9	—	14	48	2	Total force motrice primaire..... H.P.
78,400	—	32,560	286,865	10,000	Turbines et roues hydrauliques..... Nomb.
6	9	20	8	1	Capacité totale..... H.P.
3,507	1,027	5,020	1,094	60	Machines à vapeur..... Nomb.
3	1	3	8	1	Capacité totale..... H.P.
10,100	84	4,300	24,165	160	Turbines à vapeur..... Nomb.
7	125	40	5	—	Capacité totale..... H.P.
123	3,327	1,020	100	—	Moteurs à gaz et à pétrole..... Nomb.
69,914	2,803	31,169	235,456	6,180	Capacité des dynamos.
17	22	40	63	3	Dynamos, C.A..... Nomb.
69,776	1,387	30,913	235,111	6,150	Capacité totale..... K.V.A.
8	105	34	7	2	Dynamos, C.D..... Nomb.
138	1,416	256	345	30	Capacité totale..... K.W.
92,664	59,893	52,186	15,630	—	Usines municipales
13	—	2	11	—	Total force motrice primaire..... H.P.
74,525	—	960	10,095	—	Turbines et roues hydrauliques..... Nomb.
12	13	34	4	—	Capacité totale..... H.P.
2,330	4,102	10,151	925	—	Machines à vapeur..... Nomb.
3	14	12	2	—	Capacité totale..... H.P.
14,740	49,338	39,650	2,000	—	Turbines à vapeur..... Nomb.
12	66	13	12	—	Capacité totale..... H.P.
1,069	6,453	1,425	2,610	—	Moteurs à gaz et à pétrole..... Nomb.
80,028	59,170	43,841	10,892	—	Capacité des dynamos.
34	66	50	30	—	Dynamos, C.A..... Nomb.
79,879	49,877	41,081	10,892	—	Capacité totale..... K.V.A.
6	23	8	—	—	Dynamos, C.D..... Nomb.
149	293	2,760	—	—	Capacité totale..... K.W.

Tableau 11—Machines des usines auxiliaires, 1925

29,186	—	4,650	28,140	160	Total force motrice primaire..... H.P.
16.85	—	2.69	16.25	09	Pourcentage dans chaque province.....
5	—	2	3	—	Machines à vapeur..... Nomb.
4,106	—	1,250	1,025	—	Capacité totale..... H.P.
6	—	2	10	1	Turbines à vapeur..... Nomb.
24,840	—	3,300	26,165	160	Capacité totale..... H.P.
240	—	1	3	—	Moteurs à gaz et à pétrole..... Nomb.
25,838	—	3,975	21,802	150	Machinerie développant la force motrice secondaire.
13,306	—	4,650	24,615	160	Usines commerciales
3	—	2	1	—	Total force motrice primaire..... H.P.
3,206	—	1,250	450	—	Machines à vapeur..... Nomb.
3	—	2	8	1	Capacité totale..... H.P.
10,100	—	3,300	24,165	160	Turbines à vapeur..... Nomb.
—	—	1	—	—	Capacité totale..... H.P.
—	—	100	950	—	Moteurs à gaz et à pétrole..... Nomb.
11,313	—	3,975	18,890	150	Machinerie développant la force motrice secondaire.
15,880	—	—	3,525	—	Usines municipales
2	—	—	2	—	Total force motrice primaire..... H.P.
900	—	—	575	—	Machines à vapeur..... Nomb.
3	—	—	2	—	Capacité totale..... H.P.
14,740	—	—	2,000	—	Turbines à vapeur..... Nomb.
2	—	—	3	—	Capacité totale..... H.P.
240	—	—	950	—	Moteurs à gaz et à pétrole..... Nomb.
14,525	—	—	2,912	—	Machinerie développant la force motrice secondaire.

Table 12—Main Plant Equipment, 1925

	Canada	Prince Edward Is. Ile du Prince Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau Brunswick	Quebec	Ontario
Total Primary Power. H.P.						
Per cent of total for Canada.	3,569,527	1,948	41,230	30,026	1,414,886	1,461,294
Water wheels and turbines. No.	100-00	0-05	1-16	0-84	39-64	40-93
Total capacity. H.P.	710	7	36	14	242	312
Steam reciprocating engines. No.	3,416,018	236	31,265	20,400	1,410,970	1,459,742
Total capacity. H.P.	147	1	19	12	8	7
Steam turbines. No.	34,230	350	4,740	3,920	2,365	1,020
Total capacity. H.P.	43	—	8	5	2	—
Gas and oil engines. No.	101,457	—	4,845	5,075	1,465	—
Total capacity. H.P.	306	8	5	5	4	10
	17,822	1,362	380	625	86	532
Total Dynamo Capacity. K.V.A.						
Per cent of total for Canada.	2,844,709	1,548	33,768	23,068	1,132,530	1,175,107
Dynamos, A.C. No.	100-00	0-06	1-19	0-81	39-81	41-31
Total capacity. K.V.A.	935	14	63	31	237	301
Dynamos, D.C. No.	2,835,742	1,540	32,938	22,212	1,131,270	1,174,481
Total capacity. K.W.	231	1	8	5	8	16
	8,967	8	830	836	1,260	626
Commercial Stations						
Total Primary Power. H.P.						
Per cent of total for Canada.	2,243,318	1,418	13,190	17,495	1,392,570	399,464
Water wheels and turbines. No.	100-00	0-06	0-59	0-78	62-08	17-81
Total capacity. H.P.	512	7	13	8	221	190
Steam reciprocating engines. No.	2,212,813	236	5,095	8,490	1,392,265	398,902
Total capacity. H.P.	73	1	15	11	2	3
Steam turbine. No.	14,552	350	3,885	3,880	165	470
Total capacity. H.P.	13	—	5	5	1	—
Gas and oil engines. No.	10,384	—	4,100	5,075	125	—
Total capacity. H.P.	187	4	2	1	1	3
	5,569	832	110	50	15	92
Total Dynamo Capacity. K.V.A.						
Per cent of total for Canada.	1,863,545	1,863	10,648	13,185	1,114,063	352,477
Dynamos, A.C. No.	100-00	0-6	0-59	0-73	61-82	19-54
Total capacity. K.V.A.	561	10	29	20	205	173
Dynamos, D.C. No.	1,797,856	1,075	9,813	12,385	1,113,713	351,861
Total capacity. K.W.	188	1	8	4	6	13
	5,689	8	830	800	12-50	616
Municipal Stations						
Total Primary Power. H.P.						
Per cent of total for Canada.	1,326,209	538	28,044	12,525	22,316	1,061,830
Water wheels and turbines. No.	100-00	0-04	2-11	0-94	1-68	80-06
Total capacity. H.P.	198	—	23	6	21	122
Steam reciprocating engines. No.	1,203,205	—	26,170	11,910	18,705	1,060,840
Total capacity. H.P.	74	—	4	1	6	4
Steam turbines. No.	19,678	—	855	40	2,200	550
Total capacity. H.P.	30	—	3	—	1	—
Gas and oil engines. No.	91,073	—	745	—	1,340	—
Total capacity. H.P.	119	4	3	4	3	7
	12,253	530	270	575	71	440
Total Dynamo Capacity. K.V.A.						
Per cent of total for Canada.	1,041,164	465	23,125	9,883	17,567	822,630
Dynamos, A.C. No.	100-00	0-04	2-22	0-95	1-69	79-01
Total capacity. K.V.A.	374	4	34	11	32	128
Dynamos, D.C. No.	1,037,896	465	23,125	9,827	17,557	822,620
Total capacity. K.W.	43	—	—	1	2	3
	3,278	—	—	56	10	10
Hydraulic Stations						
Total Dynamo Capacity. K.V.A.						
Per cent of total for Canada.	2,720,170	23-	26,348	16,388	1,129,453	1,174,144
Dynamos, A.C. No.	100-00	0-01	0-97	0-60	41-52	43-17
Total capacity. K.V.A.	670	5	38	14	226	292
Dynamos, D.C. No.	2,718,401	230	26,348	16,388	1,128,210	1,173,696
Total capacity. K.W.	16	1	—	—	5	8
	1,769	8	—	—	1,243	448
Fuel Stations						
Total Dynamo Capacity. K.V.A.						
Per cent of total for Canada.	124,539	1,318	7,420	6,680	3,977	963
Dynamos, A.C. No.	100-00	1-05	5-96	5-36	2-47	7-77
Total capacity. K.V.A.	265	9	25	17	11	9
Dynamos, D.C. No.	117,841	1,310	6,590	5,824	3,060	785
Total capacity. K.W.	215	—	8	5	3	8
	7,198	—	830	856	17	178

Tableau 12—Machines des usines principales, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
155,608	64,331	90,436	299,714	10,060	Machinerie fournis, la force motrice primaire. H.P.
4-36	1-80	2-54	8-40	-28	Pourcentage dans chaque province.....
22	-	16	59	2	Turbines et roues hydrauliques..... Nomb.
152,925	-	33,520	206,960	10,000	Capacité totale..... H.P.
16	22	52	9	1	Machines à vapeur..... Nomb.
1,731	5,129	13,921	994	60	Capacité totale..... H.P.
-	15	13	-	-	Turbines à vapeur..... Nomb.
-	49,422	40,650	-	-	Capacité totale..... H.P.
17	191	52	14	-	Moteurs à gaz et à pétrole..... Nomb.
952	9,780	2,345	1,760	-	Capacité totale..... H.P.
124,104	52,973	71,035	224,546	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
4-36	1-86	2-50	7-89	-21	Pourcentage dans chaque province.....
38	88	85	76	2	Dynamos, C.A..... Nomb.
123,817	51,264	68,019	224,201	6,000	Capacité totale..... K.V.A.
14	128	42	7	2	Dynamos, C.D..... Nomb.
287	1,709	3,016	345	30	Capacité totale..... K.W.
Usines commerciales					
78,824	4,438	38,250	287,609	10,060	Machinerie fournis, la force motrice primaire. H.P.
3-51	-20	1-70	12-82	-45	Pourcentage dans chaque province.....
9	-	14	48	2	Turbines et roues hydrauliques..... Nomb.
78,400	-	32,560	286,865	10,000	Capacité totale..... H.P.
6	9	18	7	1	Machines à vapeur..... Nomb.
301	1,027	3,770	644	60	Capacité totale..... H.P.
-	1	1	-	-	Turbines à vapeur..... Nomb.
-	84	1,000	-	-	Capacité totale..... H.P.
7	125	39	5	-	Moteurs à gaz et à pétrole..... Nomb.
123	3,327	920	100	-	Capacité totale..... H.P.
58,601	2,803	27,194	216,566	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
3-25	-16	1-51	12-01	-32	Pourcentage dans chaque province.....
11	22	35	54	2	Dynamos, C.A..... Nomb.
58,463	1,387	26,938	216,221	6,000	Capacité totale..... K.V.A.
8	105	34	7	2	Dynamos, C.D..... Nomb.
138	1,416	256	345	30	Capacité totale..... K.W.
Usines municipales					
76,784	59,893	52,186	12,105	-	Machinerie fournis, la force motrice primaire, H.P.
5-79	4-52	3-94	-92	-	Pourcentage dans chaque province.....
13	-	2	11	-	Turbines et roues hydrauliques..... Nomb.
74,525	-	960	10,095	-	Capacité totale..... H.P.
10	13	34	2	-	Machines à vapeur..... Nomb.
1,430	4,102	10,151	350	-	Capacité totale..... H.P.
-	14	12	-	-	Turbines à vapeur..... Nomb.
-	49,338	39,650	-	-	Capacité totale..... H.P.
10	66	13	9	-	Moteurs à gaz et à pétrole..... Nomb.
829	6,453	1,425	1,660	-	Capacité totale..... H.P.
65,503	50,170	43,841	7,980	-	Capacité totale de l'ensemble des dynamos... K.V.A.
6-29	4-82	4-21	-77	-	Pourcentage dans chaque province.....
27	66	50	22	-	Dynamos, C.A..... Nomb.
65,354	49,877	41,081	7,980	-	Capacité totale..... K.V.A.
6	23	8	-	-	Dynamos, C.D..... Nomb.
149	293	2,760	-	-	Capacité totale..... K.W.
Les usines hydrauliques					
122,162	-	23,200	222,237	6,000	Capacité totale de l'ensemble des dynamos... K.V.A.
4-49	-	85	8-17	-22	Pourcentage dans chaque province.....
22	-	12	59	2	Dynamos, C.A..... Nomb.
122,162	-	23,200	222,167	6,000	Capacité totale..... K.V.A.
-	-	-	2	-	Dynamos, C.D..... Nomb.
-	-	-	70	-	Capacité totale..... K.W.
Les usines à combustible					
1,942	52,973	47,835	2,309	30	Capacité totale de l'ensemble des dynamos... K.V.A.
1-56	42-54	38-41	1-86	-02	Pourcentage dans chaque province.....
16	88	73	17	-	Dynamos, C.A..... Nomb.
1,655	51,264	44,819	2,034	-	Capacité totale..... K.V.A.
14	128	42	5	2	Dynamos, C.D..... Nomb.
287	1,709	3,016	275	30	Capacité totale..... K.W.

Table 13—Main Plant Equipment Classified, 1925

		Canada	Prince Edward Island — Île du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick
Primary Power—Force motrice primaire.					
Water wheels and turbines—Roues hydrauliques et turbines—		3,569,527	1,948	41,230	30,020
	Total No.	710	7	36	14
	Total H.P.	3,416,018	236	31,265	20,400
Under—Au-dessous de 500 H.P.	No.	222	7	22	6
	Total H.P.	39,953	236	3,925	1,400
500- 2,000 H.P.	No.	199	—	10	2
	Total H.P.	221,885	—	14,420	1,500
2,000- 5,000 H.P.	No.	101	—	4	6
	Total H.P.	296,480	—	12,920	17,500
5,000-10,000 H.P.	No.	68	—	—	—
	Total H.P.	443,900	—	—	—
10,000 15,000 H.P.	No.	64	—	—	—
	Total H.P.	743,100	—	—	—
15,000-55,000 H.P.	No.	56	—	—	—
	Total H.P.	1,670,700	—	—	—
Steam Reciprocating Engines—Machines à vapeur—					
	Total No.	147	1	19	12
	Total H.P.	34,230	350	4,740	3,920
Under—Au-dessous de 500 H.P.	No.	131	1	18	9
	Total H.P.	20,870	350	4,140	1,020
500 up.	No.	16	—	1	3
	Total H.P.	13,360	—	600	2,900
Steam turbines—Turbines à vapeur—					
	Total No.	43	—	8	5
	Total H.P.	101,457	—	4,845	5,075
Under—Au-dessous de 500 H.P.	No.	7	—	4	1
	Total H.P.	1,234	—	775	250
500- 2,000 H.P.	No.	15	—	4	3
	Total H.P.	15,088	—	4,070	1,825
2,000- 5,000 H.P.	No.	15	—	1	1
	Total H.P.	43,160	—	—	3,000
5,000-10,000 H.P.	No.	6	—	—	—
	Total H.P.	41,975	—	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole—					
	Total No.	306	8	5	5
	Total H.P.	17,822	1,362	380	625
Secondary Power—Force motrice secondaire					
Dynamos A.C. and D.C.—C.A. et C.D.—					
	Total No.	1,166	15	71	36
	Total K.V.A.	2,844,709	1,548	33,768	23,068
Dynamos A.C.—C.A.					
	Total No.	935	14	63	31
	Total K.V.A.	2,835,742	1,540	32,938	22,212
Under—Au-dessous de 200 K.V.A.	No.	304	12	30	15
	Total K.V.A.	28,041	1,040	2,821	1,787
200- 500 K.V.A.	No.	128	2	15	5
	Total K.V.A.	39,173	500	4,202	1,650
500- 1,000 K.V.A.	No.	132	—	5	4
	Total K.V.A.	95,029	—	3,325	2,450
1,000- 5,000 K.V.A.	No.	209	—	13	7
	Total K.V.A.	462,122	—	22,500	16,325
5,000-10,000 K.V.A.	No.	76	—	—	—
	Total K.V.A.	542,712	—	—	—
10,000 K.V.A. and over.	No.	86	—	—	—
	Total K.V.A.	1,667,765	—	—	—
Dynamos D.C.—C.D.					
	Total No.	231	1	8	5
	Total K.W.	8,967	8	830	856
Under—Au-dessous de 200 K.W.	No.	219	1	6	4
	Total K.W.	3,717	8	280	206
200- 500 K.W.	No.	7	—	2	—
	Total K.W.	2,150	—	550	—
500-1,000 K.W.	No.	5	—	—	1
	Total K.W.	3,100	—	—	650

Tableau 13—Machines des usines principales classifiées, 1925

Quebec	Ontario	Manitoba	Sasak- chewan	Alberta	British Columbia Colombie Britannique	Yukon	Commercial Commerciales	Municipal Municipales
1,414,886	1,461,294	155,608	64,331	99,436	299,714	10,060	2,243,318	1,326,209
242	312	22	—	16	59	2	512	198
1,410,970	1,459,742	152,925	—	33,520	296,960	10,000	2,212,813	1,203,205
80	82	1	—	10	14	—	172	50
14,890	14,917	125	—	1,920	2,540	—	28,843	11,110
58	111	2	—	—	16	—	128	71
66,305	121,340	1,000	—	—	17,320	—	137,870	84,015
28	52	2	—	2	7	—	82	19
79,825	150,235	6,400	—	8,000	21,600	—	244,300	52,180
25	14	15	—	4	8	2	51	17
175,350	84,550	89,400	—	23,600	61,000	10,000	342,700	101,200
24	29	—	—	—	11	—	47	17
259,900	346,200	—	—	—	137,000	—	530,900	212,200
27	24	2	—	—	3	—	32	24
814,700	742,500	56,000	—	—	57,600	—	928,200	742,500
8	7	16	22	52	9	1	73	74
2,365	1,020	1,731	5,129	13,921	994	60	14,552	19,678
7	7	16	20	43	9	1	67	64
1,665	1,020	1,731	3,279	6,611	994	60	9,762	11,108
1	—	—	2	9	—	—	6	10
700	—	—	1,850	7,310	—	—	4,790	8,570
2	—	—	15	13	—	—	13	30
1,465	—	—	49,422	40,650	—	—	10,384	91,073
1	—	—	—	—	—	—	4	3
125	—	—	84	—	—	—	489	745
1	—	—	4	3	—	—	8	7
1,340	—	—	4,853	3,000	—	—	6,895	8,193
—	—	—	7	7	—	—	1	14
—	—	—	21,710	18,450	—	—	3,000	40,160
—	—	—	3	3	—	—	—	6
—	—	—	22,775	19,200	—	—	—	41,975
4	10	17	191	52	14	—	187	119
86	532	952	9,780	2,345	1,760	—	5,569	12,253
245	317	52	216	127	83	4	749	417
1,132,530	1,175,167	124,104	52,973	71,035	224,546	6,030	1,803,545	1,041,164
237	301	38	88	85	76	2	561	374
1,131,270	1,174,481	123,817	51,264	68,019	224,201	6,000	1,797,856	1,037,886
50	43	14	65	49	26	—	151	153
5,327	4,445	1,230	4,609	4,125	2,657	—	13,325	14,716
29	41	5	6	14	11	—	74	54
8,601	12,143	1,487	1,888	4,556	4,056	—	22,186	16,987
39	67	—	4	5	8	—	88	44
28,772	48,989	—	2,392	3,463	6,538	—	63,625	32,304
53	89	10	10	14	11	2	140	69
116,570	182,002	34,350	23,625	38,375	22,375	6,000	312,455	149,667
18	32	7	3	3	13	—	45	31
115,500	258,262	44,750	18,750	17,500	87,950	—	310,700	232,012
48	29	2	—	—	7	—	63	23
856,500	668,640	42,000	—	—	100,625	—	1,075,565	592,200
8	16	14	128	42	7	2	188	43
1,260	626	287	1,709	3,016	345	30	5,689	3,278
5	16	14	128	37	6	2	181	38
60	626	287	1,709	366	145	30	3,089	628
2	—	—	—	2	1	—	5	2
600	—	—	—	800	200	—	1,350	800
1	—	—	—	3	—	—	2	3
600	—	—	—	1,850	—	—	1,250	1,850

Table 14—Electric Energy Generated, 1925

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau Brunswick	Quebec	Ontario
ALL STATIONS						
Total K.W. Hours Generated (thousands)	10,110,459	1,644	60,212	41,723	4,044,592	4,518,844
Per cent of total for Canada.....	100.00	0.02	0.60	0.41	40.00	44.70
K.W. Hours generated by non-generating stations.....(thousands)	7,876	—	3,288	117	—	4,391
K.W. Hours generated by generating sta- tions.....(thousands)	10,102,583	1,644	56,924	41,606	4,044,502	4,514,453
K.V.A. Capacity of generating stations.....	2,966,802	1,548	34,175	23,068	1,154,585	1,224,435
Ratio of output to maximum capacity (per cent)	42.2	12.1	19.0	20.6	42.4	47.0
Average K.W.; Hrs. per K.V.A.....	3,405	1,062	1,666	1,804	3,503	3,687
GENERATING STATIONS						
Commercial Stations						
Total						
K.W. hours generated.....(thousands)	6,524,094	1,333	16,391	24,341	4,012,303	1,423,816
K.V.A. capacity.....(thousands)	1,888,560	1,083	11,050	13,185	1,136,943	383,805
Ratio of output to maximum capacity (p.c.)	44.7	14.1	16.9	21.1	42.8	45.9
Average K.W. hrs. per K.V.A.....	3,455	1,231	1,483	1,846	3,529	3,710
Hydraulic						
K.W. hrs. generated.....(thousands)	6,492,012	81	5,580	12,123	4,012,101	1,423,448
K.V.A. capacity.....	1,869,274	238	5,123	7,025	1,136,731	383,512
Ratio of output to maximum capacity (p.c.)	45.0	3.9	12.4	19.7	42.8	45.9
Average K.W. hrs. per K.V.A.....	3,473	340	1,089	1,726	3,530	3,712
Fuel						
K.W. hours generated.....(thousands)	32,082	1,252	10,811	12,218	202	368
K.V.A. capacity.....	22,089	845	5,927	6,160	212	293
Ratio of output to maximum capacity (p.c.)	16.6	17.0	20.8	22.6	10.9	14.3
Average K.W. hrs. per K.V.A.....	1,452	1,482	1,824	1,983	953	1,256
Municipal Stations						
Total						
K.W. hours generated.....(thousands)	3,578,489	311	40,533	17,265	32,199	3,090,637
K.V.A. capacity.....	1,078,242	465	23,125	9,883	17,642	840,630
Ratio of output to maximum capacity (p.c.)	38.3	7.6	20.0	19.9	20.8	47.6
Average K.W. hours per K.V.A.....	3,319	669	1,753	1,747	1,825	3,676
Hydraulic						
K.W. hours generated.....(thousands)	3,449,592	—	38,559	16,608	31,347	3,089,699
K.V.A. capacity.....	972,989	—	21,632	9,363	14,777	839,960
Ratio of output to maximum capacity (p.c.)	45.0	—	20.3	20.1	24.2	47.7
Average K.W. hours per K.V.A.....	3,545	—	1,782	1,774	2,121	3,678
Fuel						
K.W. hours generated.....(thousands)	128,897	311	1,974	657	952	938
K.V.A. capacity.....	102,450	465	1,493	520	2,865	670
Ratio of output to maximum capacity (p.c.)	14.4	7.6	15.1	14.4	3.4	16.0
Average K.W. hours per K.V.A.....	1,258	669	1,322	1,263	297	1,400
Total Hydraulic						
K.W. hours generated.....(thousands)	9,941,604	81	44,139	28,731	4,043,448	4,513,147
K.V.A. capacity.....	2,842,263	238	26,755	16,388	1,151,508	1,223,472
Ratio of output to maximum capacity (p.c.)	43.4	3.9	18.8	20.0	40.1	47.1
Average K.W. hours per K.V.A.....	3,498	340	1,650	1,753	3,511	3,689
Total Fuel						
K.W. hours generated.....(thousands)	160,979	1,563	12,785	12,875	1,054	1,306
K.V.A. capacity.....	124,539	1,310	7,420	6,680	3,077	963
Ratio of output to maximum capacity (p.c.)	15.4	13.6	19.7	22.0	3.9	16.5
Average K.W. hours per K.V.A.....	1,293	1,193	1,723	1,927	343	1,356

Tableau 14—Energie électrique produite, 1925

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
TOUTES USINES					
515,915	66,486	129,850	725,162	6,121	Total K.W. heures produits (milliers).
5-10	0-66	1-28	7-17	0-06	Pourcentage du total pour le Canada.
—	—	80	—	—	K.W. heures produits par les usines non génératrices (milliers)
515,915	66,486	129,770	725,162	6,121	K.W. heures produits par les usines génératrices (milliers)
149,330	52,973	74,935	245,723	6,030	Capacité des usines génératrices en K.V.A.
40-8	15-9	20-0	38-1	11-6	Proportion de la production à la capacité (p.c.)
3,455	1,255	1,732	2,951	1,015	Moyenne des K.W. heures par K.V.A.
USINES GÉNÉRATRICES					
Usines Commerciales					
Total					
257,546	1,924	73,458	706,861	6,121	K.W. heures produits (milliers)
69,914	2,803	31,094	235,456	6,030	Capacité en K.V.A.
42-1	7-8	27-9	39-0	11-6	Proportion de la production à la capacité (p.c.)
3,684	686	2,562	3,002	1,015	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
257,372	—	68,880	706,346	6,081	K.W. heures produits (milliers)
69,693	—	26,250	234,732	6,000	Capacité en K.V.A.
42-1	—	31-2	39-1	11-6	Proportion de la production à la capacité (p.c.)
3,684	—	2,624	3,009	1,014	Moyenne des K.W. heures par K.V.A.
A combustible					
174	1,924	4,578	515	40	K.W. heures produits (milliers)
251	2,803	4,844	724	30	Capacité en K.V.A.
7-9	7-8	10-8	8-1	15-2	Proportion de la production à la capacité (p.c.)
693	686	945	711	1,333	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
258,369	64,562	56,312	18,301	—	K.W. heures produits (milliers)
79,416	50,170	43,841	10,267	—	Capacité en K.V.A.
39-7	16-5	14-7	20-3	—	Proportion de la production à la capacité (p.c.)
3,253	1,287	1,284	1,783	—	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
256,588	—	991	15,800	—	K.W. heures produits (milliers)
77,725	—	850	8,682	—	Capacité en K.V.A.
40-3	—	13-3	20-8	—	Proportion de la production à la capacité (p.c.)
3,301	—	1,166	1,820	—	Moyenne des K.W. heures par K.V.A.
A combustible					
1,781	64,562	55,321	2,501	—	K.W. heures produits (milliers)
1,691	50,170	42,991	1,585	—	Capacité en K.V.A.
12-0	16-5	14-7	18-0	—	Proportion de la production à la capacité (p.c.)
1,053	1,287	1,287	1,578	—	Moyenne des K.W. heures par K.V.A.
Total hydrauliques					
513,960	—	69,871	722,146	6,081	K.W. heures produits (milliers)
147,388	—	27,100	243,414	6,000	Capacité en K.V.A.
41-2	—	30-6	38-4	11-6	Proportion de la production à la capacité (p.c.)
3,487	—	2,578	2,967	1,014	Moyenne des K.W. heures par K.V.A.
Total à combustible					
1,955	66,486	59,899	3,016	40	K.W. heures produits (milliers)
1,942	52,973	47,835	2,309	30	Capacité en K.V.A.
11-5	15-9	14-3	14-9	15-2	Proportion de la production à la capacité (p.c.)
1,007	1,255	1,252	1,306	1,333	Moyenne des K.W. par K.V.A.

Table 15—Fuel, 1925—Tableau 15—Combustible, 1925

Province	Coal — Charbon		Coke — Coke		Gasoline and Coal Oil — Gazoline et pétrole		Fuel Oil — Huile combustible	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
	ton — tonnes	\$ — \$	ton — tonnes	\$ — \$	gal. — gal.	\$ — \$	gal. — gal.	\$ — \$
Canada	478,478	1,796,940	81	567	273,168	67,096	2,807,821	269,001
Prince Edward Island.....	2,646	24,329	—	—	500	150	45,908	7,684
Nova Scotia.....	42,104	194,839	—	—	282	91	50,935	8,437
New Brunswick.....	24,093	133,482	—	—	—	—	92,801	12,249
Quebec.....	5,469	37,763	81	567	600	240	14,708	1,988
Ontario.....	39,555	229,576	—	—	22,706	1,505	2,272	358
Manitoba.....	58,270	162,815	—	—	16,848	5,071	105,789	16,617
Saskatchewan.....	119,525	569,633	—	—	189,268	49,055	513,248	99,973
Alberta.....	176,826	393,495	—	—	33,467	9,724	70,885	14,672
British Columbia.....	9,990	51,008	—	—	9,497	1,260	1,911,275	107,023
Yukon.....	—	—	—	—	—	—	—	—

	Wood — Bois		Gas — Gaz		Other Fuel — Autre combustible	Total
	Quantity	Value	Quantity	Value	Quantity	Value
	Quantité	Valeur	Quantité	Valeur	Quantité	Valeur
	cord — corde	\$ — \$	1,000 cu. ft. — 1,000 pd cu.	\$ — \$	\$ — \$	\$ — \$
Canada	17,816	87,638	1,204,866	33,339	6,655	2,266,235
Prince Edward Island.....	110	440	—	—	—	32,603
Nova Scotia.....	1,440	7,208	—	—	1	210,576
New Brunswick.....	20	80	178	59	—	145,870
Quebec.....	30	120	—	—	6,439	47,117
Ontario.....	2,080	8,989	—	—	—	240,428
Manitoba.....	3,811	19,183	—	—	—	203,686
Saskatchewan.....	8,561	40,610	—	—	75	759,346
Alberta.....	550	1,700	1,204,628	38,280	—	457,871
British Columbia.....	409	1,549	—	—	140	160,980
Yukon.....	799	7,759	—	—	—	7,759

Cost of steam purchased by the Windsor, Ont., station to operate its engines is not included.
 A l'exclusion du coût de la vapeur achetée par l'usine de Windsor, Ont.

APPENDIX

Index Numbers of Rates for Electricity used for Domestic Lighting and Heating

The attached tables of index numbers of rates and monthly electric light bills include charges for lighting in private houses and for electricity used for operating electric appliances such as irons, toasters, percolators, grills, heaters, vacuum cleaners, stoves, etc., when such electricity is sold at the same rate as the lighting current. These data do not indicate the general price of electricity which includes the price paid for power and commercial lighting. In most large stations the consumption of electric energy for power purposes is by far the greater part of the total output; current for power is sold at relatively much lower rates than lighting current and it is often this large consumption for power purposes that makes possible the relatively low rate charged for lighting current.

On account of the numerous and varied methods of charging for electricity, the most general method being on a sliding scale, the unit price decreasing with increased consumption and a fixed service charge, it was impossible to make direct comparisons of rates. Consequently monthly bills were computed for

different quantities of electricity and where service charges were made on floor area, on the number of rooms and on the number of lamps, or outlets, the following were used:

Monthly Consumption	Rooms	Floor Areas	Lamps 16 c.p. or 25 watts.
K.W. Hours—	No.	Sq. ft.	
15.....	6	1,000	8
20.....	7	1,400	12
40.....	8	1,600	16
60.....	8	1,600	20
180.....	10	2,000	25

A cooking load of 6 kilowatts for the consumption of 180 kilowatt hours was also used in computing service charges where applicable. In all cases where a discount for prompt payment was allowed such discount was made in computing the bills. Where no service charge was made and where consumption charges were on a flat rate the bills were computed accordingly.

Monthly consumptions of 180 kilowatt hours would be too large for lighting alone in practically all cases and would include electricity used for cooking. The bills, however, were computed only at the lighting rate, both in municipalities where the same rate was charged for both services and in municipalities where different rates for lighting and cooking were in effect. The only recognition of the cooking service was to allow a range load of 6 kilowatts in those municipalities with a service charge for cooking on the load basis.

The consumptions of 15, 20, 40, 60 and 180 kilowatt hours per month were selected after careful consideration of all data available and they were selected not only because they were approximately the average consumptions of many of the municipalities, but because they covered a range that could be used for comparative purposes by a large majority of the municipalities.

The method of computing the index numbers for the municipalities was as follows. The bill in each case for 1913 was used as the base represented by 100 and the amounts of the bills for 1923, 1924 and 1925 were divided by the amount of the 1913 bill and multiplied by 100, the result being the respective index numbers for these years.

The index numbers for each province were weighted, to give correct values to changes occurring in the large cities where the greater part of electricity is consumed, by multiplying the index numbers of each municipality in each province by the respective number of customers for 1925 and dividing the sum of the products by the sum of the number of customers. This procedure made it necessary to select one of the five sets of index numbers for each municipality and the one selected was for the consumption quantity which was closest to the actual average consumption for that municipality.

The Dominion index numbers were computed by adding the products of customers and municipal index numbers, derived from computing the provincial index numbers for each year as explained above, by the total number of customers of the municipalities included in this report.

There are a great many factors entering into the price of electricity and when comparing the prices of different municipalities or even of one municipality for different years, these factors must be given proper weight. These factors include costs of power houses, machinery, power dams, storage dams, flooded lands, water rights, transmission lines, right of way, substations, distribution lines, etc. operating expenses including losses of power through transformers, transmission lines and distribution lines, fuel costs, labour, maintenance, depreciation through both wear and obsolescence, interest charges, taxes, and the nature of the market or load factor which governs the extent to which the

equipment is utilized. The effect of each of these factors on the price charged for electricity for residence lighting varies with different plants and locations and without an exhaustive analysis, it is impossible to assign even approximate values to the factors.

Five tables of monthly bills and index numbers have been compiled for each municipality, one table for each of the five representative consumptions mentioned above (15, 20, 40, 60 and 180 kilowatt hours). Against the name of every municipality there will be found in one of the five tables a capital "A". This is to indicate which of the five consumption quantities is most nearly typical of the actual average consumption for the municipality concerned. Thus every municipality where the average consumption was under 17.5 kilowatt hours has a capital "A" opposite its name in the table for a consumption of 15 kilowatt hours, and where the average consumption was between 17.5 and 30 kilowatt hours an "A" was placed in the table for 20 kilowatt hours, and so on.

The municipalities included in these tables are not all the cities, towns, etc. now supplied with electricity nor all the cities and towns supplied with electricity in 1913, but with a few exceptions they are all the municipalities for which comparable data could be secured for 1913 and the last three years and the customers in these municipalities were over 75 per cent of the total number in Canada. In some towns the rate had changed from a flat rate in 1913 to a sliding scale in later years and for others the rates for 1913 were not known so that comparisons were not possible.

The weighted index number for Canada shows a reduction in the price of electricity for residence lighting of 30.1 per cent from 1913 to 1925. When it is considered that the prices of practically all commodities have been increased materially as have also the cost of services, such as transportation, telephone, professional services, etc., this reduction is outstanding. The index number of wholesale prices for 1925 was 160 based on 1913 prices. The commodity prices which have decreased are very few and include nickel, copper, hides, gasoline and sulphur, and many of these were affected by over production, lack of market, rate wars, etc. None of these factors except competition have entered into the reduction of the price of electricity for lighting.

The average price for the total amount of electricity sold in Canada for all purposes including both power and lighting for 1913 is not available but the average cost to consumers including all service charges and line and transformer losses was .87 cent in 1919, .91 cent in 1920, 1.04 cents in 1921, .92 cent in 1922, .83 cent in 1923, .80 cent in 1924 and .78 cent in 1925. These averages are affected by large increases in production for power purposes and also an increased lighting load, but they are interesting and give an indication of the trend of prices of electricity.

It will be noted that the index numbers of the provinces follow very closely those of their respective large cities, due to the preponderance of the customers being in these cities. Thus the index number for Manitoba was lowered only a fraction of a point on account of no change having been made in the Winnipeg rates. The lighting rates in Winnipeg, however, were the lowest in Canada in 1913 and even in 1925 only a few other municipalities had rates that were lower. The greatest change during the 12 years, 1913 to 1925, was a drop of 38.4 points in the index number of Ontario which was 61.6 for 1925. The index number of Quebec at 64.4 was next lowest followed by those of British Columbia, New Brunswick, Alberta, Nova Scotia, Saskatchewan, Manitoba, Yukon Territory and Prince Edward Island in this order.

The effects of fixed service charges and meter rentals are more apparent in the bills for small consumptions than for 40 kilowatt hours consumption and upwards and the fixed charge with a sliding scale of rates diminishes the unit price with increased consumption. These two factors explain some apparent inconsistencies when comparing bills of the various consumptions in one place with

those of another. A large majority of the municipalities made a minimum charge and in some cases the minimum charge was greater than the computed bill for both 15 and 20 kilowatt hours. This is the explanation for the same charge for both of these consumptions being shown for a few municipalities.

Although these tables were compiled with great care, it is possible that through misinterpretation of schedules or incomplete or incorrect data being received, errors have been made in computing the bills and the Bureau would be grateful to have any errors called to its attention for correction in future issues.

INDEX NUMBERS (WEIGHTED) OF RESIDENCE ELECTRIC LIGHT RATES

Base 1913 rates = 100

	1923	1924	1925
Canada	74.4	72.2	69.9
Prince Edward Island.....	119.8	119.8	119.8
Nova Scotia.....	89.6	83.6	83.6
New Brunswick.....	88.2	79.3	70.5
Quebec.....	73.6	71.0	64.4
Ontario.....	63.7	62.0	61.6
Manitoba.....	99.9	99.9	99.9
Saskatchewan.....	99.0	100.6	97.6
Alberta.....	78.1	83.0	82.9
British Columbia.....	79.3	70.6	70.4
Yukon.....	100.0	100.0	100.0

MONTHLY BILLS AND INDEX NUMBERS FOR ELECTRICITY FOR RESIDENCE LIGHTING

(Base—1913 Bills=100)

PRINCE EDWARD ISLAND

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Charlottetown.....	† 1 90	† 2 20	† 2 20	† 2 20	115.8	115.8	115.8
Montague.....	‡ 1 37	‡ 1 97	‡ 1 97	‡ 1 97	143.8	143.8	143.8 A

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

Charlottetown.....	2 45	2 85	2 85	2 85	116.3	116.3	116.3 A
Montague.....	1 77	2 57	2 57	2 57	145.2	145.2	145.2

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

Charlottetown.....	4 65	5 45	5 45	5 45	117.2	117.2	117.2
Montague.....	3 37	4 97	4 97	4 97	147.5	147.5	147.5

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Charlottetown.....	6 85	8 05	8 05	8 05	117.5	117.5	117.5
Montague.....	4 97	7 37	7 37	7 37	148.3	148.3	148.3

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Charlottetown.....	20 05	23 65	23 65	23 65	118.0	118.0	118.0
Montague.....	14 57	21 77	21 77	21 77	149.4	149.4	149.4

Legend:—

† Supplied by Commercial Fuel Plant.

‡ Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

NOVA SCOTIA

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Amherst.....	† 1 98	† 1 98	† 1 98	† 1 98	100-0	100-0	100-0 A
Bedford.....	2 18	2 18	2 18	2 18	100-0	100-0	100-0
Dartmouth.....	1 88	1 41	1 41	1 41	75-0	75-0	75-0
Bridgetown.....	2 36	2 36	2 36	2 36	100-0	100-0	100-0 A
Digby.....	2 50	2 63	2 63	2 63	105-2	105-2	105-2
Dominion.....	1 75	* 1 75	* 1 75	* 1 75	100-0	100-0	100-0 A
Glace Bay.....	* 1 75	* 1 75	* 1 75	* 1 75	100-0	100-0	100-0
Halifax.....	1 58	\$ 1 13	\$ 1 05	\$ 1 05	71-5	63-5	63-5
Inverness.....	†	†	†	†	100-0	100-0	100-0
Liverpool.....	† Flat rate 45c. per 25 watt lamp per month	†	†	†	100-0	100-0	100-0
Lunenburg.....	† Flat rate 25c. per lamp per month	†	†	†	100-0	100-0	100-0
Middleton.....	1 42	1 42	1 42	1 42	100-0	100-0	100-0 A
New Waterford.....	2 33	† 2 33	† 2 33	† 2 33	100-0	100-0	100-0 A
Parrsboro.....	1 75	1 50	1 50	1 50	85-7	85-7	85-7 A
Springhill.....	1 50	2 23	2 23	2 23	148-7	148-7	148-7 A
Stellarton.....	1 50	1 50	1 50	1 50	100-0	100-0	100-0 A
Stewiacke.....	2 55	2 20	1 35	1 35	89-8	60-0	60-0 A
Sydney Mines.....	2 16	2 16	2 16	2 16	100-0	100-0	100-0 A
Sydney.....	1 85	2 16	2 16	2 16	116-8	116-8	116-8 A
Yarmouth.....	1 95	1 95	1 95	1 95	100-0	100-0	100-0
Windsor.....	2 02	2 02	2 02	2 02	100-0	100-0	100-0
	† 1 70	† 2 16	† 1 70	† 1 70	127-1	100-0	100-0

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

Amherst.....	2 56	2 56	2 56	2 56	100-0	100-0	100-0
Bedford.....	2 85	2 85	2 85	2 85	100-0	100-0	100-0 A
Bridgetown.....	3 06	3 06	3 06	3 06	100-0	100-0	100-0
Dartmouth.....	2 50	1 87	1 87	1 87	74-8	74-8	74-8 A
Digby.....	3 25	3 40	3 40	3 40	104-6	104-6	104-6 A
Dominion.....	2 25	2 25	2 25	2 25	100-0	100-0	100-0
Glace Bay.....	2 25	2 34	2 34	2 34	104-0	104-0	104-0
Halifax.....	2 10	1 50	1 42	1 42	71-4	67-6	67-6
Lunenburg.....	1 90	1 90	1 90	1 90	100-0	100-0	100-0
Middleton.....	3 08	3 08	3 08	3 08	100-0	100-0	100-0
New Waterford.....	2 25	2 00	2 00	2 00	88-9	88-9	88-9
Parrsboro.....	2 00	2 97	2 97	2 97	148-5	148-5	148-5
Springhill.....	2 00	2 00	2 00	2 00	100-0	100-0	100-0
Stellarton.....	3 30	3 06	1 82	1 82	92-7	55-2	55-2
Stewiacke.....	2 88	2 88	2 88	2 88	100-0	100-0	100-0
Sydney Mines.....	2 40	2 88	2 88	2 88	120-0	120-0	120-0
Sydney.....	2 52	2 52	2 52	2 52	100-0	100-0	100-0 A
Yarmouth.....	2 70	2 70	2 70	2 70	100-0	100-0	100-0 A
Windsor.....	2 25	2 88	2 25	2 25	128-0	100-0	100-0 A

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

Amherst.....	4 90	4 90	4 90	4 90	100-0	100-0	100-0
Bedford.....	5 40	5 40	5 40	5 40	100-0	100-0	100-0
Bridgetown.....	6 12	6 12	6 12	6 12	100-0	100-0	100-0
Dartmouth.....	5 00	3 75	3 75	3 75	75-0	75-0	75-0
Digby.....	6 25	6 80	6 80	6 80	108-8	108-8	108-8
Dominion.....	4 25	4 25	4 25	4 25	100-0	100-0	100-0
Glace Bay.....	4 25	4 68	4 68	4 68	110-1	110-1	110-1
Halifax.....	4 20	3 00	2 48	2 48	71-4	59-0	59-0 A
Lunenburg.....	3 80	3 80	3 80	3 80	100-0	100-0	100-0
Middleton.....	6 08	6 08	6 08	6 08	100-0	100-0	100-0
New Waterford.....	4 25	4 00	4 00	4 00	94-1	94-1	94-1
Parrsboro.....	4 00	5 94	5 94	5 94	148-5	148-5	148-5
Springhill.....	4 00	4 00	4 00	4 00	100-0	100-0	100-0
Stellarton.....	6 30	6 12	3 28	3 28	97-1	52-1	52-1
Stewiacke.....	5 76	5 76	5 76	5 76	100-0	100-0	100-0
Sydney Mines.....	4 60	5 76	5 76	5 76	125-2	125-2	125-2
Sydney.....	4 80	4 80	4 80	4 80	100-0	100-0	100-0
Yarmouth.....	5 40	5 40	5 40	5 40	100-0	100-0	100-0
Windsor.....	4 50	5 76	4 50	4 50	128-0	100-0	100-0

Legend:—

* Supplied by Municipal Fuel Plant.

† Supplied by Municipal Water Power Plant.

‡ Supplied by Commercial Fuel Plant.

§ Supplied by Commercial Water Power Plant.

CENTRAL ELECTRIC STATIONS

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NOVA SCOTIA—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 60 KILOWATT HOURS							
Amherst.....	7 06	7 06	7 06	7 06	100-0	100-0	100-0
Bedford.....	7 65	7 65	7 65	7 65	100-0	100-0	100-0
Bridgetown.....	9 18	9 18	9 18	9 18	100-0	100-0	100-0
Dartmouth.....	7 12	5 62	5 62	5 62	78 9	78 9	78 9
Digby.....	9 25	9 60	9 60	9 60	103-8	103-8	103-8
Dominion.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Glace Bay.....	6 25	7 02	7 02	7 02	112-3	112-3	112-3
Halifax.....	6 30	4 50	3 18	3 18	71-4	50-5	50-5
Lunenburg.....	5 70	5 70	5 70	5 70	100-0	100-0	100-0
Middleton.....	9 08	9 08	9 08	9 08	100-0	100-0	100-0
New Waterford.....	6 25	6 00	6 00	6 00	96-0	96-0	96-0
Parrsboro.....	6 00	8 91	8 91	8 91	148-5	148-5	148-5
Springhill.....	6 00	6 00	6 00	6 00	100-0	100-0	100-0
Stellarton.....	9 30	9 18	4 20	4 20	98-7	45-2	45-2
Stewiacke.....	8 64	8 64	8 64	8 64	100-0	100-0	100-0
Sydney Mines.....	6 80	8 55	8 55	8 55	125-7	125-7	125-7
Sydney.....	7 08	7 08	7 08	7 08	100-0	100-0	100-0
Yarmouth.....	8 10	8 10	8 10	8 10	100-0	100-0	100-0
Windsor.....	6 75	8 64	6 75	6 75	128-0	100-0	100-0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Amherst.....	18 94	18 94	18 94	18 94	100-0	100-0	100-0
Bedford.....	19 05	19 05	19 05	19 05	100-0	100-0	100-0
Bridgetown.....	24 30	24 30	24 30	24 30	100-0	100-0	100-0
Dartmouth.....	20 25	16 87	16 87	16 87	83-3	83-3	83-3
Digby.....	27 25	28 80	28 80	28 80	105-7	105-7	105-7
Dominion.....	18 25	18 25	18 25	18 25	100-0	100-0	100-0
Glace Bay.....	18 25	21 06	21 06	21 06	115-4	115-4	115-4
Halifax.....	18 90	13 50	6 60	6 60	71-4	34-9	34-9
Lunenburg.....	16 20	16 20	16 20	16 20	100-0	100-0	100-0
Middleton.....	27 08	27 08	27 08	27 08	100-0	100-0	100-0
New Waterford.....	18 25	18 00	18 00	18 00	98-6	98-6	98-6
Parrsboro.....	18 00	26 73	26 73	26 73	148-5	148-5	148-5
Springhill.....	18 00	18 00	18 00	18 00	100-0	100-0	100-0
Stellarton.....	24 30	26 82	8 40	8 40	110-4	34-6	34-6
Stewiacke.....	25 92	25 92	25 92	25 92	100-0	100-0	100-0
Sydney Mines.....	20 00	24 48	24 48	24 48	122-4	122-4	122-4
Sydney.....	19 66	19 66	19 66	19 66	100-0	100-0	100-0
Yarmouth.....	24 30	24 30	24 30	24 30	100-0	100-0	100-0
Windsor.....	20 25	25 92	20 25	20 25	128 0	100-0	100-0

NEW BRUNSWICK

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Aroostook Falls.....	\$ 1 35	\$ 1 35	\$ 1 35	\$ 1 35	100-0	100-0	100-0 A
Andover and Perth.....	† 1 35	† 1 35	† 1 35	† 1 35	100-0	100-0	100-0 A
Bathurst.....	* 2 55	* 2 28	* 2 28	* 2 28	89-4	89-4	89-4 A
Campbellton.....	† 1 50	† 1 50	† 1 50	† 1 20	100-0	100-0	80-0 A
Chatham.....	* 1 80	* 2 02	* 2 02	* 2 02	112-2	112-2	112-2 A
Dorchester.....	† 1 84	† 2 47	† 2 50	† 2 50	134-2	135-8	135-8 A
Edmundston.....	† 1 59	† 1 59	† 1 59	† 1 59	100-0	100-0	100-0 A
Fredricton.....	† 2 10	† 2 10	† 2 10	† 1 50	100-0	100-0	71-4
Moncton.....	† 1 57	† 1 50	† 1 43	† 1 20	95-5	91-1	76-4
Newcastle.....	† 2 40	† 1 88	† 1 88	† 1 88	78-3	78-3	78-3 A
Rockville.....	† 1 80	† 2 50	† 2 50	† 2 50	139-0	139-0	139-0 A
Stediac.....	† 1 96	† 2 23	† 2 23	† 2 23	113-8	113-8	113-8 A
St. John.....	† 2 25	† 1 35	† 88	† 88	60-0	39-1	39-1

Legend:—

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

NEW BRUNSWICK—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 20 KILOWATT HOURS							
Aroostook Falls.....	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Andover and Perth.....	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Bathurst.....	3 15	2 80	2 80	2 80	88-9	88-9	88-9
Campbellton.....	2 00	2 00	2 00	1 60	100-0	100-0	80-0
Chatham.....	2 40	2 70	2 70	2 70	112-5	112-5	112-5
Dorchester.....	2 38	3 22	3 25	3 25	135-3	136-6	136-6
Edmunston.....	2 07	2 07	2 07	2 07	100-0	100-0	100-0
Fredericton.....	2 70	2 70	2 70	2 00	100-0	100-0	74-1 A
Moncton.....	2 09	2 00	1 90	1 60	95-7	90-9	76-6 A
Newcastle.....	3 20	2 48	2 48	2 48	77-5	77-5	77-5
Sackville.....	2 40	3 25	3 25	3 25	135-4	135-4	135-4
Shediac.....	2 56	2 90	2 90	2 90	113-3	113-3	113-3
St. John.....	3 00	1 80	99	99	60 0	33-0	33-0 A

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

Aroostook Falls.....	3 60	3 60	3 60	3 60	100-0	100-0	100-0
Andover and Perth.....	3 60	3 60	3 60	3 60	100-0	100-0	100-0
Bathurst.....	5 55	4 89	4 89	4 89	88-1	88-1	88-1
Campbellton.....	4 00	4 00	4 00	2 90	100-0	100-0	72-5
Chatham.....	4 80	5 40	5 40	5 40	112-5	112-5	112-5
Dorchester.....	4 54	6 23	6 24	6 24	137-2	137-4	137-4
Edmunston.....	3 99	3 99	3 99	3 99	100-0	100-0	100-0
Fredericton.....	5 10	5 10	5 10	3 90	100-0	100-0	76-5
Moncton.....	4 18	4 00	3 80	3 10	95-7	90-9	74-2
Newcastle.....	6 40	4 88	4 88	4 88	76-3	76-3	76-3
Sackville.....	4 80	6 25	6 25	6 25	130-2	130-2	130-2 A
Shediac.....	4 96	5 60	5 60	5 60	112-9	112-9	112-9
St. John.....	6 00	3 45	1 44	1 44	57-5	24-0	24-0

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Aroostook Falls.....	5 40	5 40	5 31	5 31	100-0	98-3	98-3
Andover and Perth.....	5 40	5 40	5 40	5 40	100-0	100-0	100-0
Bathurst.....	7 95	6 79	6 79	6 79	85-4	85-4	85-4
Campbellton.....	6 00	6 00	6 00	3 90	100-0	100-0	38-3
Chatham.....	7 20	8 10	8 10	8 10	112-5	112-5	112-5
Dorchester.....	6 70	9 22	9 25	9 25	137-6	138-1	138-1
Edmunston.....	5 97	5 97	5 97	5 97	100-0	100-0	100-0
Fredericton.....	7 50	7 50	7 50	5 70	100-0	100-0	76-0
Moncton.....	6 27	6 00	5 70	4 50	95-7	90-9	71-8
Newcastle.....	9 60	7 04	7 04	7 04	73-3	73-3	73-3
Sackville.....	7 20	9 25	9 25	9 25	128-4	128-4	128-4
Shediac.....	7 36	8 30	8 30	8 30	112-8	112-8	112-8
St. John.....	9 00	4 75	1 89	1 89	52-8	21-0	21-0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Aroostook Falls.....	16 20	16 20	14 31	14 31	100-0	88-3	88-3
Andover and Perth.....	16 20	16 20	16 20	16 20	100-0	100-0	100-0
Bathurst.....	22 35	17 05	17 05	17 05	76-3	76-3	76-3
Campbellton.....	18 00	18 00	18 00	6 90	100-0	100-0	38-3
Chatham.....	21 60	24 30	24 30	24 30	112-5	112-5	112-5
Dorchester.....	19 66	27 22	27 25	27 25	138-5	138-6	138-6
Edmunston.....	16 45	16 45	16 45	16 45	100-0	100-0	100-0
Fredericton.....	21 90	21 90	21 90	15 70	100-0	100-0	71-7
Moncton.....	17 82	17 20	16 34	12 10	96-6	91-7	67-9
Newcastle.....	28 80	17 28	17 28	17 28	60-0	60-0	60-0
Sackville.....	21 60	27 25	27 25	27 25	126-1	126-1	126-1
Shediac.....	21 76	24 50	24 50	24 50	112-6	112-6	112-6
St. John.....	27 00	10 75	4 59	4 59	39-8	17-0	17-0

CENTRAL ELECTRIC STATIONS

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QUEBEC

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Baie St. Paul	\$Flat rat	e-1st lam 3rd	p 50c.:2nd 25c.:4th	33½c. 16½c.	100-0	100-0	100-0
Buckingham	Each ad	ditional la	mp-8½c.	mp.	100-0	100-0	100-0
Campbell's Bay	\$Flat rat	e-25c. per	40 watt la	mp.	100-0	100-0	100-0
Coaticook	\$ 2 40	\$ 2 40	\$ 2 40	\$ 2 40	100-0	100-0	100-0 A
Hull	\$ 1 48	\$ 1 54	\$ 81	\$ 81	100-0	54-7	54-7
Joliette	\$ 1 08	\$ 1 54	\$ 54	\$ 54	100-0	50-0	50-0
Lachine	\$ 1 40	\$ 1 40	\$ 1 40	\$ 1 40	100-0	100-0	100-0
La Tuque	\$ 1 12	\$ 90	\$ 90	\$ 84	80-4	80-4	75-0
Levis	\$Flat rate	50 c. per 100	watt lamp	per mont h.	100-0	100-0	100-0
Megantic	\$ 1 80	\$ 1 58	\$ 98	\$ 98	87-8	51-4	54-4
Montmagny	\$ 2 02	\$ 1 71	\$ 1 71	\$ 1 71	84-7	84-7	84-7 A
Montreal	\$ 1 75	\$ 1 75	\$ 1 00	\$ 1 00	100-0	57-1	57-1
Murray Bay	\$ 1 11	\$ 78	\$ 75	\$ 67	70-3	67-6	60-4
Pointe Gatineau	\$ 2 25	\$ 1 80	\$ 1 80	\$ 1 80	80-0	80-0	80-0
Quebec	\$Flat rat	e-35c. per	40 watt la	mp.	100-0	100-0	100-0
Rawdon	\$ 1 05	\$ 1 05	\$ 1 05	\$ 98	100-0	100-0	93-3
Riviere du Loup	\$ 1 70	\$ 1 45	\$ 1 70	\$ 1 70	85-3	100-0	100-0 A
Sherbrooke	\$ 1 75	\$ 1 75	\$ 1 75	\$ 1 75	100-0	100-0	100-0
Sorel	\$ 85	\$ 81	\$ 81	\$ 81	95-3	95-3	95-3
Ste. Agathe des Monts	\$ 1 26	\$ 1 26	\$ 1 05	\$ 1 05	100-0	83-3	83-3 A
St. Lambert	\$ 1 31	\$ 1 31	\$ 1 31	\$ 1 31	100-0	100-0	100-0
St. Remi	\$ 1 20	\$ 90	\$ 90	\$ 83	75-0	75-0	69-2
Sutton	\$ 2 50	\$ 2 50	\$ 2 50	\$ 2 50	100-0	100-0	100-0
Thedford Mines	\$ 1 20	\$ 1 20	\$ 1 20	\$ 1 20	100-0	100-0	100-0
Three Rivers	\$ 2 05	\$ 1 05	\$ 1 05	\$ 1 00	51-2	51-2	48-8 A
Valleyfield	\$ 1 35	\$ 1 08	\$ 96	\$ 75	80-0	71-1	55-6
Westmount	\$ 89	\$ 89	\$ 89	\$ 89	100-0	100-0	100-0 A
	\$ 1 05	\$ 75	\$ 75	\$ 68	71-4	71-4	64-8

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

Campbell's Bay	3 15	3 15	3 15	3 15	100-0	100-0	100-0
Coaticook	1 75	1 75	1 08	1 08	100-0	61-7	61-7
Hull	1 44	68	74	74	47-2	51-4	51-4
Joliette	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Lachine	1 47	1 17	1 17	1 08	79-6	79-6	73-5
Levis	2 40	1 92	1 30	1 30	80-0	54-2	54-2 A
Megantic	2 70	2 25	2 25	2 25	83-3	83-3	83-3
Montmagny	2 25	2 25	1 25	1 25	100-0	55-6	55-6 A
Montreal	1 43	1 00	95	85	69-9	66-4	59-4
Murray Bay	3 00	2 40	2 40	2 40	80-0	80-0	80-0
Quebec	1 40	1 40	1 40	1 30	100-0	100-0	92-9 A
Rawdon	2 20	1 87	2 20	2 20	85-0	100-0	100-0
Riviere du Loup	2 25	2 25	2 25	2 25	100-0	100-0	100-0 A
Sherbrooke	1 14	1 08	1 08	1 08	94-7	94-7	94-7 A
Sorel	1 62	1 62	1 40	1 40	100-0	86-4	86-4
Ste. Agathe des Monts	1 66	1 66	1 66	1 66	100-0	100-0	100-0 A
St. Lambert	1 55	1 15	1 15	1 05	74-2	74-2	67-7
St. Remi	3 25	3 25	3 25	3 25	100-0	100-0	100-0 A
Sutton	1 60	1 60	1 60	1 60	100-0	100-0	100-0
Thedford Mines	2 65	1 40	1 40	1 33	52-8	52-8	50-2
Three Rivers	1 80	1 44	1 28	1 00	80-0	71-1	55-6 A
Valleyfield	1 15	1 15	1 15	1 15	100-0	100-0	100-0
Westmount	1 35	95	95	85	70-4	70-4	63-0

Legend:—

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

QUEBEC—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 40 KILOWATT HOURS							
Campbell's Bay.....	6 15	6 15	6 15	6 15	100-0	100-0	100-0
Coaticook.....	2 83	2 83	2 16	2 16	100-0	76-3	76-3 A
Hull.....	2 88	1 15	1 15	1 15	39-9	39-9	39-9 A
Joliette.....	3 40	3 40	3 40	3 40	100-0	100-0	100-0
Lachine.....	2 87	2 25	2 25	2 07	78-4	78-4	72-1 A
Levis.....	4 80	3 32	2 60	2 60	69-2	54-2	54-2
Megantic.....	5 40	4 41	4 41	4 41	81-7	81-7	81-7
Montmagny.....	4 25	4 25	1 75	1 75	100-0	41-2	41-2
Montreal.....	2 71	1 85	1 75	1 55	68-3	64-6	57-2
Murray Bay.....	6 00	4 80	4 80	4 80	80-0	80-0	80-0
Quebec.....	2 80	2 80	2 80	2 61	100-0	100-0	93-2
Rawdon.....	4 20	3 57	3 78	3 78	85-0	90-0	90-0
Riviere du Loup.....	4 25	4 25	4 25	4 25	100-0	100-0	100-0
Sherbrooke.....	2 28	2 16	2 16	2 16	94-7	94-7	94-7
Sorel.....	2 52	2 52	2 80	2 80	100-0	111-1	111-1
St. Agathe des Monts.....	3 09	3 09	3 09	3 09	100-0	100-0	100-0
St. Lambert.....	2 95	2 15	2 15	1 95	72-9	72-9	66-1 A
St. Remi.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Sutton.....	3 04	3 04	3 04	3 04	100-0	100-0	100-0
Thedford Mines.....	5 05	2 80	2 80	2 66	55-4	55-4	52-7
Three Rivers.....	3 60	2 88	2 56	2 00	80-0	71-1	55-6
Valleyfield.....	2 20	2 20	2 20	2 20	100-0	100-0	100-0
Westmount.....	2 55	1 75	1 75	1 55	68-6	68-6	60-8

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Campbell's Bay.....	9 15	9 15	9 15	9 15	100-0	100-0	100-0
Coaticook.....	3 91	3 91	3 24	3 24	100-0	82-9	82-9
Hull.....	4 32	1 40	1 40	1 40	32-4	32-4	32-4
Joliette.....	4 92	4 92	4 92	4 92	100-0	100-0	100-0 A
Lachine.....	4 27	3 33	3 33	3 06	78-0	78-0	71-7
Levis.....	7 20	4 72	3 90	3 90	65-6	54-2	54-2
Megantic.....	8 10	6 57	6 57	6 57	81-1	81-1	81-1
Montmagny.....	6 25	6 25	2 25	2 25	100-0	36-0	36-0
Montreal.....	3 99	2 70	2 55	2 25	67-7	63-9	56-4 A
Murray Bay.....	9 00	7 20	7 20	7 20	80-0	80-0	80-0 A
Quebec.....	4 20	4 20	4 20	3 91	100-0	100-0	93-1
Rawdon.....	6 20	5 27	5 42	5 42	85-0	87-4	87-4
Riviere du Loup.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Sherbrooke.....	3 42	3 24	3 24	3 24	94-7	94-7	94-7
Sorel.....	3 24	3 24	4 00	4 00	100-0	123-5	123-5
St. Agathe des Monts.....	4 51	4 51	4 51	4 51	100-0	100-0	100-0
St. Lambert.....	4 35	3 15	3 15	2 85	72-4	72-4	65-5
St. Remi.....	9 25	9 25	9 25	9 25	100-0	100-0	100-0
Sutton.....	4 56	4 56	4 56	4 56	100-0	100-0	100-0
Thedford Mines.....	7 45	4 20	4 20	3 99	56-4	56-4	53-6
Three Rivers.....	5 40	4 32	3 84	3 00	80-0	71-1	55-6
Valleyfield.....	3 25	3 25	3 25	3 25	100-0	100-0	100-0
Westmount.....	3 75	2 55	2 55	2 25	68-0	68-0	60-0 A

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Campbell's Bay.....	27 15	27 15	27 15	27 15	100-0	100-0	100-0
Coaticook.....	10 39	10 39	9 72	9 72	100-0	93-6	93-6
Hull.....	12 96	2 70	2 70	2 70	20-8	20-8	20-8
Joliette.....	12 68	12 68	12 68	12 68	100-0	100-0	100-0
Lachine.....	12 74	9 90	9 90	8 09	77-7	77-7	63-5
Levis.....	21 60	13 12	11 70	11 70	60-7	54-2	54-2
Megantic.....	21 60	19 53	19 53	19 53	90-4	90-4	90-4
Montmagny.....	18 25	18 25	5 25	5 25	100-0	28-8	28-8
Montreal.....	11 67	7 80	7 35	6 45	66-8	63-0	55-3
Murray Bay.....	27 00	21 60	17 28	17 28	80-0	64-0	64-0
Quebec.....	12 60	11 66	11 66	11 75	92-5	92-5	93-3
Rawdon.....	18 20	15 47	14 56	14 56	85-0	80-0	80-0
Riviere du Loup.....	18 25	18 25	18 25	18 25	100-0	100-0	100-0
Sherbrooke.....	10 26	9 72	9 72	9 72	94-7	94-7	94-7
Sorel.....	7 56	7 56	10 00	10 00	100-0	132-3	132-3
St. Agathe des Monts.....	13 05	13 05	13 05	13 05	100-0	100-0	100-0
St. Lambert.....	12 75	9 15	9 15	8 25	71-8	71-8	64-7
St. Remi.....	27 25	27 25	27 25	27 25	100-0	100-0	100-0
Sutton.....	11 52	11 52	11 52	11 52	100-0	100-0	100-0
Thedford Mines.....	21 85	12 60	12 60	11 97	57-7	57-7	54-8
Three Rivers.....	16 20	12 96	11 52	9 00	80-0	71-1	55-6
Valleyfield.....	9 55	9 55	9 55	9 55	100-0	100-0	100-0
Westmount.....	10 95	7 35	7 35	6 45	67-1	67-1	53-9

ONTARIO

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Alliston.	*†	1 80	†	1 00	†	1 00	†	1 00	55-6	55-6	55-6
Ancaster.	†	84	†	94	†	97	†	84	111-9	115-5	100-0
Arthur.	†	1 75	†	1 50	†	2 00	†	2 00	85-7	114-3	114-3
Arkona.	†	1 75	†	2 50	†	2 50	†	2 50	142-8	142-8	142-8 A
Aurora.	†	75	†	50	†	50	†	50	66-6	66-6	66-6
Aylmer.	†	57	†	75	†	75	†	75	47-8	47-8	47-8
Baden.	†	90	†	75	†	75	†	75	83-3	83-3	83-3
Bancroft.	†	Flat rate	30 cts.	per 40 watt lamp.	100-0	100-0	100-0				
Barrie.	†	1 05	†	75	†	75	†	75	71-4	71-4	71-4
Beachville.	†	1 03	†	75	†	75	†	75	72-8	72-8	72-8
Beeton.	†	1 80	†	1 50	†	1 50	†	1 50	83-3	83-3	83-3
Belleville.	†	1 05	†	75	†	75	†	75	71-4	71-4	71-4
Blenheim.	†	1 62	†	75	†	75	†	75	46-3	46-3	46-3
Blind River.	†	32c. per	25 W. lamp	p-32c. per	40W. lamp p.	100-0	100-0	100-0	60-0	60-0	60-0
Bolton.	†	1 75	†	1 00	†	1 00	†	1 00	57-1	57-1	57-1
Bowmanville.	†	1 20	†	75	†	75	†	75	62-5	62-5	62-5
Brampton.	†	77	†	75	†	75	†	75	97-4	97-4	97-4
Brighton.	†	1 20	†	94	†	75	†	75	78-3	62-5	62-5
Brockville.	†	1 50	†	1 20	†	1 05	†	75	80-0	70-0	50-0
Brussels.	†	2 50	†	2 50	†	2 50	†	2 50	100-0	100-0	100-0
Burks Falls.	†	1 40	†	1 60	†	1 60	†	1 60	114-3	114-3	114-3
Cardinal.	†	1 30	†	1 30	†	1 25	†	1 25	100-0	96-1	96-1
Carleton Place.	†	98	†	1 00	†	1 00	†	1 00	102-0	102-0	102-0
Chatham.	†	1 30	†	75	†	75	†	75	57-7	57-7	57-7
Clinton.	†	1 75	†	75	†	75	†	75	42-9	42-9	42-9
Cochrane.	†	1 75	†	1 75	†	1 75	†	1 75	100-0	100-0	100-0 A
Collingwood.	†	97	†	75	†	75	†	75	77-3	77-3	77-3
Cobourg.	†	85	†	81	†	81	†	81	95-3	95-3	95-3
Cornwall.	†	1 05	†	81	†	81	†	81	77-1	77-1	77-1
Delhi.	†	1 45	†	1 45	†	1 45	†	1 45	100-0	100-0	100-0
Deseronto.	†	1 20	†	1 08	†	1 08	†	1 08	90-0	90-0	90-0 A
Dundas.	†	84	†	75	†	75	†	75	89-3	89-3	89-3
Dundalk.	†	2 35	†	1 00	†	1 00	†	1 00	42-6	42-6	42-6
Dunnville.	†	1 15	†	81	†	75	†	75	70-4	65-2	65-2
Elk Lake.	†	1 16	†	1 45	†	1 75	†	1 75	125-0	150-8	150-8 A
Elmvale.	†	1 57	†	75	†	75	†	75	47-8	47-8	47-8
Exeter.	†	1 75	†	75	†	75	†	75	42-9	42-9	42-9
Fergus.	†	1 75	†	75	†	75	†	75	42-9	42-9	42-9
Forest.	†	1 75	†	1 00	†	1 00	†	1 00	57-1	57-1	57-1
Fort Erie.	†	1 08	†	1 08	†	1 00	†	1 00	100-0	92-6	92-6
Fort William.	†	67	†	54	†	50	†	50	80-6	74-6	74-6
Gananoque.	†	1 07	†	54	†	96	†	96	50-5	89-7	89-7
Georgetown.	†	89	†	75	†	75	†	75	84-2	84-2	84-2
Galt.	†	75	†	75	†	75	†	75	100-0	100-0	100-0
Goderich.	†	89	†	75	†	70	†	70	84-2	78-6	78-6
Grand Valley.	†	1 75	†	1 25	†	1 25	†	1 25	71-4	71-4	71-4
Guelph.	†	80	†	75	†	75	†	75	93-7	93-7	93-7
Hagersville.	†	97	†	75	†	75	†	75	77-3	77-3	77-3
Hamilton.	†	76	†	75	†	75	†	75	98-7	98-7	98-7
Hastings.	†	1 75	†	90	†	75	†	75	51-4	42-8	42-8
Hawkesbury.	†	1 40	†	1 20	†	1 58	†	1 58	85-7	112-8	112-8 A
Hensall.	†	2 05	†	1 25	†	1 25	†	1 25	60-9	60-9	60-9
Hespeler.	†	1 48	†	1 00	†	1 00	†	1 00	67-5	67-5	67-5
Ingersoll.	†	97	†	75	†	75	†	75	77-3	77-3	77-3
Inglewood.	†	Flat rate	25c. per	60 W. lamp	12½ per	100-0	100-0	100-0			
Kingston.	†	1 50	†	75	†	75	†	75	50-0	50-0	50-0
Kitchener.	†	84	†	75	†	75	†	75	89-3	89-3	89-3
Lambeth.	†	1 13	†	1 05	†	1 25	†	1 25	92-9	110-6	110-6
London.	†	75	†	75	†	75	†	75	100-0	100-0	100-0
Listowel.	†	1 50	†	81	†	75	†	75	54-0	50-0	50-0
L'Orignal.	†	1 70	†	1 70	†	1 70	†	1 70	100-0	100-0	100-0
Lynden.	†	1 18	†	1 25	†	1 25	†	1 25	105-9	105-9	105-9
Madoc.	†	Flat rate	4c. per watt lamp rating.	100-0	100-0	100-0	100-0				
Markdale.	†	1 50	†	1 00	†	1 00	†	1 00	66-6	66-6	66-6
Mattawa.	†	Flat rate	25c. per 40 watt lamp	per month	100-0	100-0	100-0				
Midland.	†	80	†	75	†	75	†	75	93-8	93-8	93-8
Millbrook.	†	1 20	†	1 00	†	1 00	†	1 00	83-3	83-3	83-3
Mimico.	†	90	†	75	†	75	†	75	83-3	83-3	83-3
Mount Forest.	†	1 50	†	1 00	†	1 00	†	1 00	66-6	66-6	66-6
Morrisburg.	†	Flat rate	\$1.00 per	60 C.P. light per year.	100-0	100-0	100-0				
Napanee.	†	1 20	†	1 00	†	81	†	81	83-3	67-5	67-5 A
Neustadt.	†	1 50	†	1 50	†	1 50	†	1 50	100-0	100-0	100-0 A
Newmarket.	†	1 65	†	50	†	50	†	50	30-3	30-3	30-3

Legend:

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—Concluded

Newburg.....	1 80	1 50	1 50	1 50	83-3	83-3	83-3
New Hamburg.....	90	75	75	75	83-3	83-3	83-3
Niagara Falls.....	60	75	75	75	125-0	125-0	125-0
Orillia.....	79	51	51	51	64-5	64-5	64-5
Orono.....	1 20	1 02	1 02	1 02	85-0	85-0	85-0 A
Oshawa.....	1 20	67	67	67	55-8	55-8	55-8
Ottawa.....	76	54	54	54	71-1	71-1	71-1
Otterville.....	1 08	67	69	71	62-0	63-9	65-7 A
Owend Sound.....	1 23	75	75	75	61-0	61-0	61-0
Paris.....	75	75	75	75	100-0	100-0	100-0
Penbrooke.....	1 80	73	73	73	40-6	40-6	40-6
Penetanguishene.....	94	75	75	75	79-7	79-7	79-7
Perth.....	1-62	81	75	75	50-0	46-3	46-3
Peterboro.....	75	75	75	75	100-0	100-0	100-0
Picton.....	1 16	81	81	81	69-8	69-8	69-8
Port Arthur.....	70	75	75	75	107-1	107-1	107-1
Port Hope.....	1 20	81	81	81	67-5	67-5	67-5
Prescott.....	1 35	1 00	75	75	74-1	55-6	55-6
Preston.....	90	75	75	75	83-3	83-3	83-3
Rainy River.....	1 90	2 20	2 20	2 20	115-8	115-8	115-8 A
Renfrew.....	1 44	67	68	68	46-5	47-2	47-2
Richmond Hill.....	1 48	1 47	98	98	99-3	66-2	66-2
Ridgetown.....	1 50	75	75	75	50-0	50-0	50-0
Sault Ste. Marie.....	1 75	50	50	50	28-6	28-6	28-6 A
Seaforth.....	2 20	75	75	75	34-1	34-1	34-1
Shelburne.....	2 25	1 00	1 00	1 00	44-4	44-4	44-4
Smith's Falls.....	1 21	1 00	1 00	1 00	82-6	82-6	82-6
Stouffville.....	2 03	1 35	1 35	1 35	66-5	66-5	66-5 A
Strathroy.....	2 00	61	57	57	30-5	28-5	28-5
Stratford.....	97	75	75	75	77-3	77-3	77-3
Streetsville.....	1 10	1 25	1 05	1 05	89-3	75-0	75-0
St. Catharines.....	1 00	54	54	54	54-0	54-0	54-0
St. Marys.....	1 03	75	75	75	72-8	72-8	72-8
St. Thomas.....	80	75	75	75	93-8	93-8	93-8
Sudbury.....	1 50	1 23	1 23	1 23	82-0	82-0	82-0
Thamesford.....	1 17	1 08	93	93	92-3	79-5	79-5
Thamesville.....	1 75	1 00	1 00	1 00	57-1	57-1	57-1
Tavistock.....	1 80	1 00	1 00	1 00	55-6	55-6	55-6
Teeswater.....	1 80	1 50	1 50	1 50	83-3	83-3	83-3
Theftord.....	1 75	1 50	1 50	1 50	85-7	85-7	85-7
Thessalon.....	1 37	1 67	1 67	1 67	121-8	121-8	121-8
Thorold.....	75	75	75	75	100-0	100-0	100-0
Tilbury.....	1 50	1 00	1 00	1 00	66-7	66-7	66-7
Toronto.....	76	75	75	75	98-7	98-7	98-7
Trenton.....	1 26	75	75	75	59-5	59-5	59-5
Tweed.....	1 20	94	1 00	1 00	78-3	83-3	83-3
Uxbridge.....	1 75	1 35	1 50	1 50	77-1	85-7	85-7
Vankleek Hill.....	1 75	1 54	1 54	1 54	88-0	88-0	88-0 A
Victoria Harbour.....	1 48	1 00	1 00	1 00	67-6	67-6	67-6
Wallaceburg.....	1 80	75	75	75	41-7	41-7	41-7
Walkerville.....	1 56	75	75	75	48-1	48-1	48-1
Waterford.....	94	75	75	75	79-8	79-8	79-8
Waterloo.....	90	75	75	75	83-3	83-3	83-3
Welland.....	64	75	75	75	117-2	117-2	117-2
Weston.....	90	75	75	75	83-3	83-3	83-3
Whitby.....	1 32	60	60	60	45-5	45-5	45-5
Winchester.....	2 25	94	68	68	41-8	30-2	30-2
Windsor.....	1 20	75	75	75	62-5	62-5	62-5
Wingham.....	1 50	94	75	75	62-7	50-0	50-0
Woodstock.....	75	75	75	75	100-0	100-0	100-0

Legend:

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- † Supplied by Municipal Water Power Plant.
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- § Supplied by Commercial Water Power Plant.

ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
Alliston.....	2 40	1 28	1 20	1 20	53.3	50.0	50.0 A
Ancaster.....	1 06	1 22	1 20	1 02	115.1	113.2	96.2 A
Arthur.....	2 25	1 58	2 00	2 00	70.2	88.9	88.9 A
Arkona.....	2 25	3 25	3 25	3 25	144.4	144.4	144.4 A
Aurora.....	1 00	60	60	60	60.0	60.0	60.0
Aylmer.....	2 02	86	75	75	42.6	37.1	37.1 A
Baden.....	1 33	77	75	75	57.9	56.4	56.4 A
Barrie.....	1 31	75	75	75	57.3	57.3	57.3
Beachville.....	1 40	92	80	80	65.7	57.1	57.1 A
Beeton.....	2 35	2 02	1 50	1 50	86.0	63.8	63.8 A
Belleville.....	1 30	92	92	92	70.8	70.8	70.8
Blenheim.....	2 16	92	75	75	42.6	34.7	34.7 A
Bolton.....	2 25	1 28	1 28	1 28	56.9	56.9	56.9 A
Bowmanville.....	1 60	92	92	92	57.5	57.5	57.5 A
Brampton.....	1 05	75	75	75	71.4	71.4	71.4
Brighton.....	1 60	1 28	90	90	80.0	56.3	56.3 A
Brockville.....	2 00	1 62	1 42	90	81.0	71.0	45.0 A
Brussels.....	3 25	2 50	2 50	2 50	76.9	76.9	76.9 A
Burks Falls.....	1 80	2 00	2 00	2 00	111.1	111.1	111.1 A
Cardinal.....	1 65	1 65	1 60	1 60	100.0	97.0	97.0 A
Carleton Place.....	1 28	1 10	1 10	1 02	85.9	85.9	79.7
Chatham.....	1 66	1 01	1 04	1 05	60.8	62.7	63.3
Clinton.....	2 25	83	75	75	36.9	33.3	33.3 A
Cochrane.....	2 25	2 25	2 25	2 25	100.0	100.0	100.0
Collingwood.....	1 31	75	75	75	57.3	57.3	57.3
Cobourg.....	1 16	1 10	1 10	1 10	94.8	94.8	94.8
Cornwall.....	1 40	1 10	1 10	1 10	78.6	78.6	78.6 A
Delhi.....	1 85	1 85	1 85	1 85	100.0	100.0	100.0 A
Deseronto.....	1 60	1 46	1 46	1 46	91.3	91.3	91.3
Dundas.....	1 06	75	75	75	70.8	70.8	70.8 A
Dundalk.....	3 05	1 04	1 00	1 00	34.1	32.8	32.8 A
Dunnville.....	1 45	1 04	84	84	71.7	57.9	57.9
Elk Lake.....	1 48	1 85	2 25	2 25	125.0	152.0	152.0
Elmvale.....	2 05	75	75	75	36.6	36.6	36.6 A
Exeter.....	2 25	1 01	75	75	44.9	33.3	33.3
Fergus.....	2 25	75	75	75	33.3	33.3	33.3
Forest.....	2 25	1 28	1 02	1 02	56.9	45.3	45.3 A
Fort Erie.....	1 62	1 62	1 00	1 00	100.0	61.7	61.7 A
Fort William.....	90	72	54	54	80.0	60.0	60.0 A
Gananoque.....	1 40	67	1 10	1 10	47.9	78.6	78.6
Georgetown.....	1 10	75	75	75	68.2	68.2	68.2
Galt.....	1 02	75	75	77	73.5	73.5	75.5 A
Goderich.....	1 13	95	83	83	84.1	73.5	73.5
Grand Valley.....	2 25	1 25	1 25	1 25	55.6	55.6	55.6 A
Guelph.....	1 09	75	75	75	68.8	68.8	68.8
Hagersville.....	1 31	75	75	75	57.3	57.3	57.3
Hamilton.....	1 04	75	75	75	72.1	72.1	72.1
Hastings.....	2 25	1 12	1 00	1 00	49.8	44.4	44.4 A
Hawkesbury.....	1 80	1 60	1 80	1 80	88.9	100.0	100.0 A
Hensall.....	2 65	1 46	1 25	1 25	55.1	47.2	47.2
Hospeler.....	1 93	1 00	1 00	1 00	51.8	51.8	51.8
Ingersoll.....	1 67	75	75	75	44.9	44.9	41.9
Kingston.....	1 95	1 01	92	92	51.8	47.2	47.2
Kitchener.....	1 13	75	75	75	66.4	66.4	66.4 A
Lambeth.....	1 40	1 42	1 25	1 25	101.4	89.3	89.3
London.....	90	74	74	74	82.2	82.2	82.2 A
Listowel.....	2 00	1 10	92	75	55.0	46.0	37.5
L'Orignal.....	2 20	2 20	2 20	2 20	100.0	100.0	100.0 A
Lynden.....	1 50	1 25	1 25	1 25	83.3	83.3	83.3
Markdale.....	2 00	1 10	1 00	1 00	55.0	50.0	50.0
Midland.....	1 03	79	75	75	76.7	72.8	72.8
Millbrook.....	1 60	1 22	1 28	1 28	76.3	80.0	80.0 A
Mimico.....	1 15	77	75	75	67.0	65.2	65.2
Mount Forest.....	2 00	1 10	1 00	1 00	55.0	50.0	50.0 A
Napanee.....	1 60	1 10	1 10	1 10	68.8	68.8	68.8
Neustadt.....	1 64	1 50	1 50	1 50	91.5	91.5	91.5
Newmarket.....	2 15	60	60	60	27.9	27.9	27.9 A
Newburg.....	2 40	1 50	1 50	1 50	62.5	62.5	62.5 A
New Hamburg.....	1 08	75	75	75	69.4	69.4	69.4 A
Niagara Falls.....	80	75	75	75	93.8	93.8	93.8
Norwich.....	1 15	86	75	75	74.8	65.2	65.2
Orillia.....	1 23	64	54	51	52.0	43.9	41.5 A
Orono.....	1 60	1 37	1 37	1 37	85.6	85.6	85.6
Oshawa.....	1 60	92	92	92	37.5	37.5	37.5
Ottawa.....	1 04	74	74	74	71.2	71.2	71.2
Otterville.....	1 40	81	99	90	57.9	70.7	64.3
Owen Sound.....	1 59	75	75	75	47.2	47.2	47.2 A
Paris.....	75	75	75	75	100.0	100.0	100.0
Pembroke.....	2 40	92	92	92	38.3	38.3	38.3
Penetanguishene.....	1 28	92	75	75	71.9	58.6	58.6

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

CENSUS OF INDUSTRY

ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—Concluded

Perth.....	2 11	1 10	84	84	52.1	39.8	39.8
Peterboro.....	83	83	83	83	100.0	100.0	100.0
Pictou.....	1 48	1 10	1 10	1 10	74.3	74.3	74.3
Port Arthur.....	95	75	75	75	78.9	78.9	78.9
Port Hope.....	1 50	1 10	1 10	1 10	73.3	73.3	73.3 A
Prescott.....	1 80	1 00	75	75	55.6	41.7	41.7
Preston.....	1 22	83	83	83	68.0	68.0	68.0
Rainy River.....	2 45	2 85	2 85	2 85	116.3	116.3	116.3
Renfrew.....	1 88	86	92	92	45.7	48.9	48.9 A
Richmond Hill.....	1 80	1 75	1 20	1 20	97.2	66.7	66.7 A
Ridgetown.....	2 00	83	83	75	41.5	41.5	37.5
Sault Ste. Marie.....	2 14	68	68	68	31.8	31.8	31.8
Seaforth.....	2 88	87	81	81	30.2	28.1	28.1
Shelburne.....	2 75	1 28	1 22	1 22	44.4	44.4	44.4 A
Stouffville.....	2 65	1 82	1 82	1 82	68.7	68.7	68.7
Strathroy.....	2 60	83	66	66	31.9	25.4	25.4
Stratford.....	1 31	83	86	86	63.4	65.6	65.6 A
Streetsville.....	1 80	1 60	1 40	1 40	88.9	77.8	77.8
Smith's Falls.....	1 57	1 28	1 02	1 02	81.5	65.0	65.0
St. Catharines.....	1 19	74	74	74	62.2	62.2	62.2
St. Marys.....	1 40	83	75	75	59.3	53.6	53.6
St. Thomas.....	1 09	75	75	75	68.8	68.8	68.8
Sudbury.....	1 95	1 59	1 59	1 59	81.5	81.5	81.5 A
Thamesford.....	1 58	1 46	1 10	1 10	92.4	69.6	69.6 A
Thamesville.....	2 25	1 10	1 00	1 00	48.9	44.4	44.4
Tavistock.....	2 40	1 00	1 00	1 00	41.7	41.7	41.7 A
Teeswater.....	2 40	1 50	1 50	1 50	62.5	62.5	62.5 A
Theftford.....	2 25	1 50	1 50	1 50	80.9	66.7	66.7 A
Thessalon.....	1 77	2 17	2 17	2 17	122.6	122.6	122.6 A
Thorold.....	92	75	75	75	81.5	81.5	81.5
Tilbury.....	2 00	1 28	1 10	1 08	64.0	55.0	54.0 A
Toronto.....	1 04	75	75	75	72.1	72.1	72.1
Trenton.....	1 70	1 01	92	92	59.4	54.1	54.1 A
Tweed.....	1 60	1 28	1 28	1 28	80.0	80.0	80.0 A
Uxbridge.....	2 25	1 78	1 50	1 50	78.2	66.7	66.7 A
Vankleek Hill.....	2 27	1 89	1 89	1 89	83.3	83.3	83.3
Victoria Harbour.....	1 93	1 00	1 00	1 00	51.8	51.8	51.8
Walkerville.....	1 92	92	75	75	47.9	39.1	39.1
Wallaceburg.....	2 33	86	75	75	36.9	32.2	32.2
Waterford.....	1 22	75	75	75	61.5	61.5	61.5 A
Waterloo.....	1 23	75	75	75	61.0	61.0	61.0
Welland.....	87	75	75	75	86.2	86.2	86.2
Weston.....	1 15	75	75	75	65.2	65.2	65.2 A
Whitby.....	1 64	82	82	82	50.0	50.0	50.0
Winchester.....	3 00	1 28	81	81	42.7	27.0	27.0
Windsor.....	1 60	92	75	75	57.5	57.5	46.9
Wingham.....	2 00	1 28	1 00	1 00	64.0	50.0	50.0 A
Woodstock.....	1 02	75	75	75	73.5	73.5	73.5

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

Alliston.....	4 80	2 23	2 10	2 10	46.5	43.8	43.8
Ancaster.....	1 84	2 23	2 10	1 74	121.2	114.1	94.6
Arthur.....	4 25	2 95	2 46	2 46	69.4	57.9	57.9
Arkona.....	4 25	6 25	6 25	6 25	147.1	147.1	147.1
Aurora.....	2 00	1 05	1 05	1 05	52.5	52.5	52.5 A
Aylmer.....	3 82	1 51	99	99	39.5	25.9	25.9
Baden.....	2 37	1 33	1 02	1 02	56.1	43.0	43.0
Barrie.....	2 20	1 03	1 01	1 01	46.8	45.9	45.9
Beachville.....	2 38	1 51	1 50	1 50	63.4	63.0	63.0
Beeton.....	4 55	3 68	2 60	2 28	80.9	57.1	50.1
Belleville.....	2 00	1 51	1 51	1 51	75.5	75.5	75.5 A
Blenheim.....	4 32	1 51	1 20	1 20	35.0	27.8	27.8
Bolton.....	4 25	2 07	2 23	2 23	48.7	52.5	52.5
Bowmanville.....	3 20	1 51	1 02	1 51	47.2	47.2	47.2
Brampton.....	1 66	1 15	1 02	1 02	69.3	61.4	61.4 A
Brighton.....	3 20	2 23	1 80	1 80	69.7	56.3	56.3
Brockville.....	4 00	1 68	2 48	1 50	42.0	62.0	37.5
Brussels.....	6 25	2 50	2 50	2 50	40.0	40.0	40.0
Burks Falls.....	3 40	3 60	3 60	3 60	105.9	105.9	105.9
Cardinal.....	3 05	3 05	3 00	3 00	100.0	98.4	98.4
Carleton Place.....	2 48	1 87	1 87	1 74	75.4	75.4	70.2 A
Chatham.....	3 10	1 69	1 38	1 38	54.5	44.5	44.5 A
Clinton.....	4 25	1 51	1 20	1 20	35.5	28.2	28.2
Cochrane.....	4 25	4 25	4 25	4 25	100.0	100.0	100.0
Collingwood.....	2 19	1 15	1 02	1 02	52.5	46.6	46.6

CENTRAL ELECTRIC STATIONS

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ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOUR—Continued

Cobourg.....	1 84	1 87	1 87	1 87	101.6	101.6	101.6
Cornwall.....	2 80	1 87	1 88	1 88	66.8	67.1	67.1
Delhi.....	3 45	3 45	3 45	3 45	100.0	100.0	100.0
Deseronto.....	3 20	2 59	2 59	2 59	80.9	80.9	80.9
Dundas.....	1 84	1 15	90	1 02	62.5	48.9	55.4
Dundalk.....	5 85	1 87	1 02	1 02	32.0	17.4	17.4
Dunnville.....	2 65	1 87	1 38	1 38	70.6	52.1	52.1 A
Elk Lake.....	2 76	3 45	4 25	4 25	125.0	154.0	154.0
Elmvalle.....	3 82	1 15	1 02	1 02	30.1	26.7	26.7
Exeter.....	4 25	1 69	1 20	1 20	39.8	28.2	28.2
Fergus.....	4 25	99	1 02	1 02	23.3	24.0	24.0 A
Forest.....	4 25	2 23	1 74	1 74	52.5	40.9	40.9
Fort Erie.....	2 32	2 32	1 74	1 40	100.0	75.0	60.3
Fort William.....	1 80	1 44	1 08	1 08	80.0	60.0	60.0
Gananoque.....	2 70	1 21	1 67	1 67	44.8	61.9	61.9 A
Georgetown.....	1 87	1 15	75	75	61.5	40.1	40.1 A
Galt.....	1 53	1 15	1 02	1 15	75.2	66.7	75.2
Goderich.....	2 05	1 58	1 33	1 33	77.1	64.9	64.9 A
Grand Valley.....	4 25	2 07	2 10	2 10	48.7	49.4	49.4
Guelph.....	1 79	1 15	90	1 02	64.2	50.3	57.0 A
Hagersville.....	2 05	1 15	1 02	1 02	56.1	49.8	49.8 A
Hamilton.....	1 66	1 15	1 15	1 15	69.3	69.3	69.3 A
Hastings.....	4 25	2 02	1 75	1 75	47.5	41.2	41.2
Hawkesbury.....	3 40	3 20	2 70	2 70	94.1	79.4	79.4
Hensall.....	5 05	2 23	1 50	1 38	44.2	29.7	27.3
Hespeler.....	3 73	1 34	1 34	1 02	35.9	35.9	27.3
Ingersoll.....	2 20	1 15	1 15	1 15	52.3	52.3	52.3 A
Kingston.....	3 75	1 69	1 52	1 52	45.1	40.5	40.5 A
Kitchener.....	1 84	1 15	1 15	1 15	62.5	62.5	62.5
Lambeth.....	2 59	2 48	1 74	1 74	95.8	67.2	67.2 A
London.....	1 80	1 15	1 15	1 15	63.9	63.9	63.9
Listowel.....	4 00	1 88	1 52	1 02	47.0	38.0	25.5
L'Orignal.....	4 20	4 20	4 20	4 20	100.0	100.0	100.0
Lynden.....	2 21	1 87	1 35	1 35	84.5	61.1	61.1
Markdale.....	4 00	1 87	1 20	46.8	30.0	30.0	30.0 A
Midland.....	1 79	1 30	1 02	1 02	72.6	57.0	57.0
Millbrook.....	3 20	2 23	2 24	2 24	69.7	70.0	70.0
Mimico.....	2 02	1 24	1 28	1 10	61.4	63.4	54.4 A
Mount Forest.....	4 00	1 87	1 38	1 38	46.8	34.5	34.5
Napanee.....	3 20	1 87	1 87	1 87	58.4	58.4	58.4
Napaneee.....	3 20	2 59	2 46	2 46	91.2	86.6	86.6
Neustadt.....	4 15	98	98	98	23.6	23.6	23.6
Newmarket.....	4 80	2 05	2 05	2 05	42.7	42.7	42.7 A
New Hamburg.....	1 80	1 15	1 02	1 02	63.9	56.7	56.7
Niagara Falls.....	1 60	1 16	1 16	1 16	72.5	72.5	72.5
Norwich.....	2 01	1 51	1 02	1 02	75.1	50.7	50.7 A
Orillia.....	1 59	1 04	88	88	65.4	55.3	55.3
Orono.....	3 20	2 41	2 41	2 41	75.3	75.3	75.3
Oshawa.....	3 20	1 51	1 51	1 51	47.2	47.2	47.2 A
Ottawa.....	1 66	1 15	1 15	1 15	69.3	69.3	69.3 A
Otterville.....	2 59	1 35	1 40	1 45	52.1	54.0	56.0
Owen Sound.....	3 03	1 15	1 15	1 02	38.0	38.0	33.7
Paris.....	1 44	1 15	75	75	79.9	52.1	52.1
Pembroke.....	4 40	1 51	1 51	1 51	34.3	34.3	34.3
Penetanguishene.....	2 23	1 51	1 02	1 02	67.7	45.7	45.7
Perth.....	4 09	1 87	1 38	1 38	45.7	33.7	33.7 A
Peterboro.....	1 33	1 33	1 33	1 33	100.0	100.0	100.0
Pictou.....	2 76	1 87	1 87	1 87	67.8	67.8	67.8 A
Port Arthur.....	1 48	1 15	1 15	1 15	77.7	77.7	77.7
Port Hope.....	2 40	1 87	1 87	1 87	77.9	77.9	77.9
Prescott.....	3 60	1 51	1 02	1 02	41.9	28.3	28.3 A
Preston.....	2 02	1 33	1 33	1 33	65.8	65.8	65.8
Rainy River.....	4 65	5 45	5 45	5 45	117.2	117.2	117.2
Renfrew.....	3 63	1 51	1 52	1 52	41.6	41.9	41.9
Richmond Hill.....	3 06	2 56	2 20	2 20	83.7	71.9	71.9
Ridgetown.....	4 00	1 33	1 33	1 02	33.3	33.3	25.5 A
Sault Ste. Marie.....	3 56	1 12	1 12	1 12	31.5	31.5	31.5
Seaforth.....	5 58	1 51	1 35	1 35	27.1	24.2	24.2 A
Shelburne.....	4 75	2 23	1 90	1 90	46.9	40.0	40.0
Smith's Falls.....	3 01	2 23	1 74	1 74	74.1	57.8	57.8 A
Stouffville.....	5 15	3 41	3 41	3 41	66.2	66.2	66.2
Strathroy.....	5 00	1 33	1 02	1 02	26.6	20.4	20.4
Stratford.....	2 20	1 33	1 34	1 34	60.5	60.9	60.9
Streetsville.....	3 40	3 00	2 80	2 80	88.2	82.4	82.4 A
St. Catharines.....	2 38	1 15	1 15	1 15	48.3	48.3	48.3
St. Marys.....	2 38	1 33	1 20	1 20	55.9	50.4	50.4
St. Thomas.....	1 79	1 15	1 15	1 02	64.2	64.2	57.0
Sudbury.....	3 75	3 03	3 03	3 03	80.8	80.8	80.8
Thamesford.....	2 73	2 59	1 90	1 90	94.9	69.6	69.6
Thamesville.....	4 35	1 87	1 38	1 38	44.0	32.5	32.5 A

CENSUS OF INDUSTRY

ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—Concluded

Tavistock.....	4 80	1 33	1 33	1 33	27 7	27 7	27-7
Teeswater.....	4 80	2 23	2 23	2 23	46-5	46-5	46-5
Thedford.....	4 25	3 31	2 46	2 46	77-9	57-9	57-9
Thessalon.....	3 37	4 17	4 17	4 17	123-7	123-7	123-7
Thorold.....	1 51	1 15	1 38	1 38	76-2	91-4	91-4 A
Tilbury.....	4 00	2 23	1 87	1 38	55-8	46-8	34-5
Toronto.....	1 66	1 15	1 15	1 15	69-3	69-3	69-3
Trenton.....	3 14	1 69	1 51	1 51	53-8	48-1	48-1
Tweed.....	3 20	2 23	2 23	2 23	69-7	69-7	69-7
Uxbridge.....	4 25	3 31	2 46	2 46	77-9	57-9	57-9
Vankleek Hill.....	4 37	3 29	3 29	3 29	75-3	75-3	75-3
Victoria Harbour.....	3 73	1 35	1 38	1 38	33-2	37-0	37-0 A
Walkerville.....	2 88	1 55	1 20	1 20	53-8	41-7	41-7
Wallaceburg.....	4 42	1 51	1 20	1 20	34-2	27-1	27-1 A
Waterford.....	2 05	1 06	1 02	1 02	51-7	49-8	49-8
Waterloo.....	2 02	1 15	1 02	1 02	56-9	50-5	50-5
Welland.....	1 38	1 15	1 15	1 15	83-3	83-3	83-3
Weston.....	2 02	1 15	1 15	1 15	56-9	56-9	56-9
Whitby.....	2 92	1 34	1 34	1 34	45-9	45-9	45-9 A
Winchester.....	6 00	2 23	1 35	1 35	37-2	22-5	22-5 A
Windsor.....	3 20	1 51	1 51	1 20	47-2	47-2	37-5
Wingham.....	4 00	2 23	2 00	2 00	55-8	50-0	50-0
Woodstock.....	1 68	1 15	1 15	1 15	68-5	68-5	68-5 A

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Alliston.....	7 20	2 81	3 00	3 00	39-0	41-7	41-7
Ancaster.....	2 47	2 81	3 00	2 46	113-8	121-5	99-6
Arthur.....	6 25	3 63	3 54	3 54	58-9	56-6	56-6
Arkona.....	6 25	9 25	9 25	9 25	148-0	148-0	148-0
Aurora.....	3 00	1 45	1 45	1 45	48-3	48-3	48-3
Aylmer.....	5 62	1 56	1 26	1 26	27-8	22-4	22-4
Baden.....	3 27	1 64	1 38	1 38	50-2	42-2	42-2
Barrie.....	3 01	1 26	1 38	1 38	41-9	45-8	45-8 A
Beachville.....	3 28	1 89	2 10	2 10	57-6	64-0	64-0
Beeton.....	6 75	4 80	2 81	2 97	71-1	41-6	44-0
Belleville.....	2 60	1 89	1 89	1 89	72-7	72-7	72-7
Blenheim.....	6 48	1 89	1 65	1 65	29-2	25-5	25-5
Bolton.....	6 25	2 97	3 13	3 13	47-5	50-0	50-0
Bowmanville.....	4 80	1 89	1 89	1 89	39-4	39-4	39-4
Brampton.....	2 20	1 40	1 38	1 38	63-6	62-7	62-7
Brighton.....	4 80	2 81	2 70	2 70	58-5	56-3	56-3
Brockville.....	6 00	3 72	2 04	2 10	62-0	44-0	35-0
Brussels.....	9 25	3 51	3 60	3 60	37-9	33-9	33-9
Burks Falls.....	5 00	5 20	5 20	5 20	104-0	104-0	104-0
Cardinal.....	4 45	4 45	4 40	4 40	100-0	98-9	98-9
Carleton Place.....	3 68	2 37	2 30	2 46	64-4	62-5	66-8
Chatham.....	4 54	2 13	1 95	1 95	46-0	43-0	43-0
Clinton.....	6 25	1 89	1 65	1 65	30-2	26-4	26-4
Cochrane.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Collingwood.....	3 00	1 51	1 38	1 38	50-3	46-0	46-0 A
Cobourg.....	2 44	2 38	2 38	2 38	97-5	97-5	97-5 A
Cornwall.....	4 20	2 38	2 38	2 38	56-7	56-7	56-7
Dellhi.....	5 05	5 05	5 05	5 05	100-0	100-0	100-0
Deseronto.....	4 80	3 24	3 24	3 24	67-5	67-5	67-5
Dundas.....	2 47	1 40	1 08	1 38	56-7	43-7	35-9
Dundalk.....	8 65	2 37	1 38	1 38	27-4	16-0	16-0
Dunnville.....	3 85	2 38	1 92	1 92	61-8	49-9	49-9
Elk Lake.....	4 04	5 05	6 25	6 25	125-0	151-7	151-7
Elmvale.....	5 44	1 51	1 38	1 38	27-8	25-4	25-4
Exeter.....	6 25	2 13	1 65	1 65	34-1	26-4	26-4
Fergus.....	6 25	1 35	1 38	1 38	21-6	22-1	22-1
Forest.....	6 25	2 81	2 46	2 46	45-0	39-4	39-4
Fort Erie.....	3 30	3 30	2 48	1 86	100-0	75-2	56-4
Fort William.....	2 70	2 16	1 62	1 62	80-0	60-0	60-0
Gananoque.....	4 00	1 75	2 21	2 21	43-8	55-3	55-3
Georgetown.....	2 38	1 40	1 35	1 35	58-8	56-7	55-7
Galt.....	2 28	1 40	1 38	1 51	61-4	60-5	66-2
Goderich.....	2 86	2 13	1 83	1 83	74-5	64-0	61-0
Grand Valley.....	6 25	2 97	3 00	3 00	47-5	48-0	48-0
Guelph.....	2 43	1 40	1 40	1 38	57-6	57-6	55-8
Hagersville.....	2 62	1 40	1 38	1 38	53-4	52-7	52-7
Hamilton.....	2 20	1 40	1 40	1 40	63-6	63-6	63-6
Hastings.....	6 25	2 65	2 55	2 55	42-4	40-8	40-8
Hawkesbury.....	5 00	4 20	3 60	3 60	84-0	72-0	72-0
Hensall.....	7 45	2 59	2 25	1 65	34-8	30-2	22-1
Hespeler.....	5 53	1 65	1 65	1 38	29-8	29-8	25-0 A

CENTRAL ELECTRIC STATIONS

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ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—Concluded							
Ingersoll.....	3 01	1 40	1 40	1 40	46.5	46.5	46.5
Kingston.....	5 55	2 13	1 89	1 89	38.4	34.1	34.1
Kitchener.....	2 47	1 40	1 40	1 40	56.7	56.7	56.7
Lambeth.....	3 67	3 18	2 46	2 46	86.6	67.0	67.0
London.....	2 70	1 40	1 40	1 40	51.9	51.9	51.9
Listowel.....	6 00	2 38	1 89	1 38	39.7	31.5	23.0 A
L'Orignal.....	6 20	6 20	6 20	6 20	100.0	100.0	100.0
Lynden.....	2 72	2 38	1 89	1 89	87.5	69.5	69.5
Markdale.....	6 00	2 38	1 65	1 65	39.7	27.5	27.5
Midland.....	2 43	1 66	1 38	1 38	68.3	56.8	56.8 A
Millbrook.....	4 80	2 81	2 81	2 81	58.5	58.5	58.5
Mimico.....	2 74	1 65	1 38	1 38	60.2	50.4	50.4
Mount Forest.....	6 00	2 38	1 92	1 92	39.6	32.0	32.0
Napanee.....	4 80	2 38	2 38	2 38	49.6	49.6	49.6
Neustadt.....	3 78	3 24	3 54	3 54	85.7	93.7	93.7
Newmarket.....	6 25	1 28	1 28	1 28	20.5	20.5	20.5
Newburg.....	7 20	2 62	2 62	2 62	36.4	36.4	36.4
New Hamburg.....	2 52	1 51	1 38	1 38	59.9	54.8	54.8
Niagara Falls.....	2 40	1 41	1 41	1 41	58.8	58.8	58.8 A
Norwich.....	2 74	1 89	1 38	1 38	68.9	50.4	50.4
Orillia.....	1 95	1 40	1 19	1 19	71.8	61.0	61.0
Orono.....	4 80	3 10	3 02	3 02	64.6	62.9	62.9
Oshawa.....	4 80	1 89	1 89	1 89	39.4	39.4	39.4
Ottawa.....	2 20	1 40	1 40	1 40	63.6	63.6	63.6
Otterville.....	3 67	1 89	1 91	1 99	51.5	52.0	54.2
Owen Sound.....	4 47	1 40	1 40	1 38	31.3	31.3	30.9
Paris.....	2 16	1 40	1 35	1 35	64.8	62.5	62.5 A
Pembroke.....	6 00	2 05	2 05	2 05	34.2	34.2	34.2 A
Penetanguishene.....	3 13	1 89	1 38	1 38	60.4	44.1	44.1
Perth.....	6 07	2 38	1 92	1 92	39.2	31.6	31.6
Peterboro.....	1 65	1 65	1 65	1 65	100.0	100.0	100.0 A
Pictou.....	4 04	2 38	2 38	2 38	58.9	58.9	58.9
Port Arthur.....	1 93	1 40	1 40	1 40	72.5	72.5	72.5 A
Port Hope.....	3 20	2 38	2 38	2 38	74.4	74.4	74.4
Prescott.....	5 40	1 89	1 38	1 38	35.0	25.6	25.6
Preston.....	2 74	1 65	1 65	1 65	60.2	60.2	60.2
Rainy River.....	6 85	8 05	8 05	8 05	117.5	117.5	117.5
Renfrew.....	5 38	1 94	1 95	1 95	36.1	36.2	36.2
Richmond Hill.....	4 32	3 01	2 70	2 70	69.7	62.5	62.5
Ridgetown.....	6 00	1 65	1 65	1 38	27.5	27.5	23.0
Sault Ste. Marie.....	4 51	1 44	1 44	1 44	31.9	31.9	31.9
Seaford.....	8 28	1 89	1 89	1 89	22.8	22.8	22.8
Shelburne.....	6 75	2 81	2 70	2 70	41.6	40.0	40.0
Smith's Falls.....	4 45	2 63	2 46	2 46	59.1	55.3	55.3
Stouffville.....	7 65	4 03	4 03	4 03	52.7	52.7	52.7
Strathroy.....	7 40	1 65	1 38	1 38	22.3	18.6	18.6 A
Stratford.....	3 01	1 65	1 79	1 79	54.8	59.5	59.5
Streetsville.....	5 00	4 40	4 20	4 20	88.0	84.0	84.0
St. Catharines.....	3 57	1 40	1 40	1 40	39.2	39.2	39.2 A
St. Marys.....	3 28	1 65	1 65	1 65	50.3	50.3	50.3 A
St. Thomas.....	2 43	1 40	1 40	1 38	57.6	57.6	56.8 A
Sudbury.....	5 55	4 47	4 47	4 47	80.5	80.5	80.5
Thamesford.....	3 82	3 24	2 70	2 70	84.8	70.7	70.7
Thamesville.....	6 25	2 38	1 92	1 92	35.1	30.7	30.7
Tavistock.....	7 20	1 65	1 65	1 65	22.9	22.9	22.9
Teeswater.....	7 20	2 81	2 81	2 81	39.0	39.0	39.0
Theford.....	6 25	4 10	3 54	3 54	65.6	56.6	56.6
Thessalon.....	4 97	6 17	6 17	6 17	124.1	124.1	124.1
Thorold.....	2 05	1 40	1 38	1 38	68.3	67.3	67.3
Tilbury.....	6 00	2 86	2 38	1 92	47.7	39.7	32.0
Toronto.....	2 20	1 40	1 40	1 40	63.6	63.6	63.6 A
Trenton.....	4 54	2 13	2 05	2 05	46.9	45.2	45.2
Tweed.....	4 80	2 81	2 81	2 81	58.5	58.5	58.5
Uxbridge.....	6 25	4 10	3 54	3 54	65.6	56.6	56.6
Vankleek Hill.....	6 47	4 34	4 34	4 34	67.1	67.1	67.1
Victoria Harbour.....	5 53	1 89	1 92	1 92	34.2	34.7	34.7
Walkerville.....	3 68	1 89	1 65	1 65	51.4	44.8	44.8 A
Wallaceburg.....	6 51	1 89	1 65	1 65	29.0	25.3	25.3
Waterford.....	2 59	1 24	1 38	1 38	47.9	53.3	53.3
Waterloo.....	2 74	1 40	1 38	1 38	51.1	50.4	50.4 A
Welland.....	1 83	1 40	1 40	1 40	76.5	76.5	76.5 A
Weston.....	2 74	1 40	1 40	1 40	51.1	51.1	51.1
Whitby.....	4 20	1 66	1 66	1 66	39.5	39.5	39.5
Winchester.....	9 00	2 81	1 89	1 89	31.2	21.0	21.0
Windsor.....	4 80	1 89	1 89	1 65	39.4	39.4	34.4
Wingham.....	6 00	2 81	3 00	3 00	46.8	50.0	50.0
Woodstock.....	2 28	1 40	1 40	1 40	61.4	61.4	61.4

CENSUS OF INDUSTRY

ONTARIO—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 180 KILOWATT HOURS							
Alliston.....	21 60	5 40	5 10	5 10	25.0	23.6	23.6
Ancaster.....	6 39	5 40	5 16	4 62	84.5	80.7	72.3
Arthur.....	18 25	6 48	5 70	5 70	35.5	31.2	31.2
Arkona.....	18 25	27 25	27 25	27 25	149.3	149.3	149.3
Aurora.....	9 00	3 30	3 30	3 30	36.7	36.7	36.7
Aylmer.....	16 42	3 78	2 34	2 34	23.0	14.3	14.3
Baden.....	8 82	3 24	2 46	2 46	36.7	27.9	27.9
Barrie.....	8 01	2 43	2 46	2 46	30.3	30.7	30.7
Beachville.....	8 82	3 78	5 70	5 70	42.9	64.6	64.6
Beeton.....	19 95	10 20	5 94	5 13	51.1	29.8	25.7
Bellefleur.....	6 40	3 78	3 78	3 78	59.1	59.1	59.1
Blenheim.....	19 44	3 78	3 27	3 27	19.4	16.8	16.8
Bolton.....	18 25	5 13	5 40	5 40	28.1	29.6	29.6
Bowmanville.....	14 40	3 78	3 78	3 78	26.3	26.3	26.3
Brampton.....	5 58	1 70	2 46	2 46	30.5	44.1	44.1
Brighton.....	14 40	5 40	8 10	8 10	37.5	56.3	56.3
Brockville.....	18 00	7 90	6 00	3 90	43.3	33.3	21.7
Brussels.....	27 25	5 67	6 00	6 00	20.8	22.0	22.0
Burks Falls.....	14 60	14 80	14 80	14 80	101.4	101.4	101.4
Cardinal.....	12 85	12 85	12 80	12 80	100.0	99.6	99.6
Carleton Place.....	10 88	4 86	4 86	5 70	44.7	44.7	52.4
Chatham.....	13 18	4 32	3 60	3 60	32.8	27.3	27.3
Clinton.....	18 25	3 78	3 27	3 27	20.7	17.9	17.9
Cochrane.....	18 25	18 25	18 25	18 25	100.0	100.0	100.0
Collingwood.....	8 01	2 70	2 46	2 36	33.7	30.7	30.7
Cobourg.....	6 20	4 86	4 86	4 86	78.4	78.4	78.4
Cornwall.....	12 60	4 86	4 86	4 86	38.6	38.6	38.6
Delhi.....	14 65	11 45	11 45	11 45	78.2	78.2	78.2
Deseronto.....	14 40	5 94	5 94	5 94	41.3	41.3	41.3
Dundas.....	6 39	2 70	2 16	2 46	42.3	33.8	38.5
Dundalk.....	25 45	4 86	2 46	2 46	19.1	10.0	10.0
Dunnville.....	11 05	4 86	3 54	3 54	44.0	32.0	32.0
Elk Lake.....	10 72	14 65	14 65	14 65	136.7	136.7	136.7
Elmvale.....	10 53	2 70	3 93	3 93	25.6	37.3	37.3
Exeter.....	18 25	4 32	3 00	3 00	23.7	16.4	16.4
Fergus.....	18 25	2 43	2 46	2 46	13.3	13.5	13.5
Forest.....	18 25	5 40	4 64	4 64	29.6	25.4	25.4
Fort Erie.....	6 62	6 62	4 19	3 44	100.0	63.3	52.0
Fort William.....	8 10	6 48	4 86	4 86	80.0	60.0	60.0
Gananoque.....	11 80	3 78	4 34	4 34	32.0	36.8	36.8
Georgetown.....	4 86	2 70	2 43	2 43	55.6	50.0	50.0
Galt.....	6 00	1 70	2 82	3 06	28.3	47.0	51.0
Goderich.....	7 83	4 32	3 33	3 33	55.2	42.5	42.5
Grand Valley.....	18 25	5 13	5 16	5 16	28.1	28.3	28.3
Guelph.....	6 40	2 70	2 70	2 46	42.2	42.2	38.4
Hagersville.....	5 40	2 70	2 46	2 46	50.0	45.6	45.6
Hamilton.....	5 58	2 70	2 70	2 70	48.4	48.4	48.4
Hastings.....	18 25	5 62	5 25	5 25	30.8	28.8	28.8
Hawkesbury.....	14 60	10 20	9 00	9 00	69.9	61.6	61.6
Hensall.....	21 85	4 86	4 75	4 45	22.2	21.7	20.4
Hespeler.....	16 33	3 24	3 33	2 46	19.8	20.4	15.1
Ingersoll.....	8 01	2 70	2 70	2 70	33.7	33.7	33.7
Kingston.....	16 35	4 32	3 78	3 78	26.4	23.1	23.1
Kitchener.....	6 39	2 70	2 70	2 70	42.3	42.3	42.3
Lambeth.....	7 02	6 60	4 62	4 62	94.0	65.8	65.8
London.....	8 10	2 70	2 70	2 70	33.3	33.3	33.3
Listowel.....	18 00	4 86	3 78	2 46	27.0	21.0	13.6
L'Orignal.....	18 20	18 20	18 20	18 20	100.0	100.0	100.0
Lynden.....	5 36	4 86	3 51	3 15	90.7	65.5	65.5
Markdale.....	18 00	4 86	3 00	3 00	27.0	16.7	16.7
Midland.....	4 80	3 06	2 46	2 46	63.8	51.3	51.3
Millbrook.....	14 40	5 40	5 40	5 40	37.5	37.5	37.5
Mitico.....	7 20	3 24	2 46	2 46	45.0	34.2	34.2
Napanee.....	14 40	4 86	4 86	4 86	33.8	33.8	33.8
Mount Forest.....	18 00	4 86	2 54	2 54	27.0	14.1	14.1
Neustadt.....	7 56	5 94	5 70	5 70	78.6	75.4	75.4
Newmarket.....	18 15	2 03	2 03	2 03	11.2	11.2	11.2
Newburg.....	21 60	5 40	5 40	5 40	25.0	25.0	25.0
New Hamburg.....	4 68	2 70	2 46	2 46	57.7	52.6	52.6
Niagara Falls.....	7 20	2 70	2 70	2 70	37.5	37.5	37.5
Norwich.....	7 02	3 78	2 16	2 16	53.8	30.7	30.7
Orillia.....	2 40	3 62	2 32	2 32	150.8	96.7	96.7
Orono.....	14 40	6 48	5 67	5 67	45.0	39.4	39.4
Oshawa.....	14 40	3 78	3 78	3 78	26.3	26.3	26.3
Ottawa.....	5 58	2 43	2 43	2 43	43.5	43.5	43.5
Otterville.....	10 26	5 13	5 40	5 41	50.0	52.6	52.7
Owen Sound.....	13 11	2 70	2 70	2 46	20.6	20.6	18.8
Paris.....	6 48	2 70	2 43	2 43	41.7	37.6	37.6
Pembroke.....	14 40	5 40	5 40	5 40	37.5	37.5	37.5
Penetanguishene.....	8 64	3 78	2 46	2 46	43.8	28.5	28.5

ONTARIO—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—Concluded

Perth.....	17 95	4 86	3 54	3 54	27.1	19.7	19.7
Peterboro.....	3 24	3 24	3 24	3 24	100.0	100.0	100.0
Pictou.....	11 72	4 86	4 86	4 86	41.5	41.5	41.5
Port Arthur.....	4 77	2 70	2 70	2 70	56.6	56.6	56.6
Port Hope.....	8 20	4 86	4 86	4 86	59.3	59.3	59.3
Prescott.....	16 20	3 78	2 46	2 46	23.3	15.2	15.2
Preston.....	7 20	3 24	3 24	3 24	45.0	45.0	45.0
Rainy River.....	20 05	23 65	23 65	23 65	118.0	118.0	118.0
Renfrew.....	15 88	3 60	3 06	3 06	22.7	19.3	19.3
Richmond Hill.....	11 88	5 71	4 50	4 50	48.1	37.9	37.9
Ridgetown.....	18 00	3 24	3 24	2 46	18.0	18.0	13.7
Sault Ste. Marie.....	7 65	3 60	3 60	3 60	47.1	47.1	47.1
Seaforth.....	24 48	3 78	3 51	3 51	15.4	14.3	14.3
Shelburne.....	18 75	5 40	5 10	5 10	28.8	27.2	27.2
Smith's Falls.....	13 10	5 40	4 62	4 62	41.2	35.3	35.3
Stouffville.....	22 65	7 02	7 02	7 02	31.0	31.0	31.0
Strathroy.....	21 80	3 24	2 46	2 46	14.9	11.3	11.3
Stratford.....	8 01	3 24	3 58	3 58	40.4	44.7	44.7
Streetsville.....	14 60	12 80	12 60	12 60	87.7	86.3	86.3
St. Catharines.....	10 71	2 70	2 70	2 70	25.2	25.2	25.2
St. Marys.....	8 82	3 24	3 00	3 00	36.7	34.0	34.0
St. Thomas.....	6 40	2 70	2 46	2 46	42.2	38.4	38.4
Sudbury.....	16 35	13 16	13 16	13 16	80.5	80.5	80.5
Thamesford.....	10 44	5 94	5 10	5 10	56.9	48.9	48.9
Thamesville.....	18 25	4 86	3 54	3 54	26.6	19.4	19.4
Tavistock.....	21 60	3 24	3 24	3 24	15.0	15.0	15.0
Teeswater.....	21 60	5 40	5 40	5 40	25.0	25.0	25.0
Thedford.....	18 25	7 02	5 70	5 70	38.5	31.2	31.2
Thessalon.....	14 57	18 17	18 17	18 17	124.7	124.7	124.7
Thorold.....	5 44	2 70	2 46	2 46	49.6	45.2	45.2
Tilbury.....	18 00	5 94	4 86	3 54	33.0	27.0	19.7
Toronto.....	5 58	2 70	2 70	2 70	48.4	48.4	48.4
Trenton.....	13 02	2 32	3 78	3 78	17.8	29.0	29.0
Tweed.....	14 40	5 40	5 40	5 40	37.5	37.5	37.5
Uxbridge.....	18 25	7 02	6 33	6 33	38.5	34.7	34.7
Vankeek Hill.....	19 07	8 54	8 54	8 54	44.8	44.8	44.8
Victoria Harbour.....	16 33	5 16	5 16	5 16	31.6	31.6	31.6
Walkerville.....	8 80	3 78	3 00	3 00	43.0	34.1	34.1
Wallaceburg.....	19 05	3 78	3 00	3 00	19.8	15.7	15.7
Waterford.....	5 94	2 43	2 46	2 46	40.9	41.4	41.4
Waterloo.....	7 20	1 70	2 46	2 46	23.6	34.2	34.2
Welland.....	4 65	2 70	2 70	2 70	58.1	58.1	58.1
Weston.....	7 20	2 70	2 70	2 70	37.5	37.5	37.5
Whitby.....	11 88	3 12	3 12	3 12	26.3	26.3	26.3
Winchester.....	27 00	5 40	4 05	4 05	20.0	15.0	15.0
Windsor.....	14 40	3 78	3 78	3 00	26.3	26.3	20.8 A
Wingham.....	18 00	5 40	9 00	9 00	30.0	50.0	50.0
Woodstock.....	6 00	2 70	2 70	2 70	45.0	45.0	45.0

MANITOBA

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Boissevain.....	* 2 92	* 3 25	* 3 25	* 3 25	111.3	111.3	111.3 A
Brandon.....	\$ 1 68	\$ 1 68	\$ 1 68	\$ 1 68	100.0	100.0	100.0
Carman.....	* 2 65	* 2 65	* 2 50	* 2 50	100.0	94.3	94.3
Carberry.....	* 2 43	* 3 15	* 3 15	* 3 15	129.6	129.6	129.6 A
Dauphin.....	* 2 10	* 2 10	* 2 35	* 2 35	100.0	111.9	111.9
Neepawa.....	* 2 55	* 2 55	* 2 55	* 2 55	100.0	100.0	100.0
Portage la Prairie.....	* 2 13	* 1 62	* 1 62	* 1 62	76.1	76.1	76.1
Roston.....	* 4 15	* 4 45	* 4 20	* 4 20	107.2	101.2	101.2 A
Shoal Lake.....	* 2 25	* 4 00	* 4 00	* 4 00	177.8	177.8	177.8 A
Winnipeg.....	\$† 0 50	\$† 0 50	\$† 0 50	\$† 0 50	100.0	100.0	100.0

Legend:

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

MANITOBA—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 20 KILOWATT HOURS							
Boissevain.....	3 82	4 25	4 25	4 25	111.3	111.3	111.3
Brandon.....	2 15	2 15	2 15	2 15	100.0	100.0	100.0 A
Carman.....	3 45	3 45	3 25	3 25	100.0	94.2	94.2 A
Carberry.....	3 19	4 15	4 15	4 15	130.1	130.1	130.1
Dauphin.....	2 80	2 80	3 05	3 05	100.0	108.9	108.9 A
Portage la Prairie.....	2 85	2 16	2 16	2 16	75.8	75.8	75.8 A
Neepawa.....	3 30	3 30	3 30	3 30	100.0	100.0	100.0
Reston.....	5 45	5 85	5 60	5 60	107.3	102.8	102.8
Shoal Lake.....	3 00	5 25	5 25	5 25	175.0	175.0	175.0
Winnipeg.....	0 60	0 60	0 60	0 60	100.0	100.0	100.0

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS							
Boissevain.....	7 42	8 25	8 25	8 25	111.2	111.2	111.2
Brandon.....	4 05	4 05	4 05	4 05	100.0	100.0	100.0
Carman.....	6 65	6 65	6 25	6 25	100.0	93.9	93.9
Carberry.....	6 25	8 15	8 15	8 15	130.4	130.4	130.4
Dauphin.....	5 60	5 60	5 55	5 55	100.0	104.5	104.5
Neepawa.....	6 30	6 30	6 30	6 30	100.0	100.0	100.0 A
Portage la Prairie.....	5 70	3 32	3 32	3 32	58.2	58.2	58.2
Reston.....	10 65	11 45	11 20	11 20	107.5	105.2	105.2
Shoal Lake.....	6 00	10 25	10 25	10 25	170.8	170.8	170.8
Winnipeg.....	1 20	1 20	1 20	1 20	100.0	100.0	100.0 A

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS							
Boissevain.....	11 02	12 25	12 25	12 25	111.2	111.2	111.2
Brandon.....	5 95	5 95	5 95	5 95	100.0	100.0	100.0
Carman.....	9 85	9 85	9 25	9 25	100.0	93.9	93.9
Carberry.....	9 31	11 95	10 95	10 95	128.4	117.6	117.6
Dauphin.....	8 40	8 40	8 65	8 65	100.0	103.0	103.0
Neepawa.....	9 30	9 30	9 30	9 30	100.0	100.0	100.0
Portage la Prairie.....	8 55	4 68	4 68	5 85	54.7	54.7	68.4
Reston.....	15 85	17 05	16 80	16 80	107.6	106.0	106.0
Shoal Lake.....	9 00	15 25	15 25	15 25	169.4	169.4	169.4
Winnipeg.....	1 80	1 80	1 80	1 80	100.0	100.0	100.0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS							
Boissevain.....	32 62	36 25	36 25	36 25	111.1	111.1	111.1
Brandon.....	17 35	17 35	17 35	17 35	100.0	100.0	100.0
Carman.....	29 05	29 05	27 25	27 25	100.0	93.8	93.8
Carberry.....	27 67	30 75	27 75	27 75	111.1	100.3	100.3
Dauphin.....	25 20	25 20	25 45	25 45	100.0	101.0	101.0
Neepawa.....	27 30	27 30	27 30	27 30	100.0	100.0	100.0
Portage la Prairie.....	25 65	6 84	6 84	6 84	26.7	26.7	33.7
Reston.....	47 05	50 65	50 40	50 40	107.7	107.1	107.1
Shoal Lake.....	27 00	45 25	45 25	45 25	167.6	167.6	167.6
Winnipeg.....	3 72	3 72	3 72	3 72	100.0	100.0	100.0

SASKATCHEWAN

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Arcola.....	† 2 92	† 2 92	† 3 00	† 3 00	100.0	102.7	102.7 A
Battleford.....	† 1 95	† 2 04	† 2 04	† 2 04	104.6	104.6	104.6
Canora.....	• 3 20	• 3 25	• 3 25	• 3 25	101.6	101.6	101.6
Davidson.....	• 2 50	• 2 95	• 2 95	• 2 95	118.0	118.0	118.0
Govan.....	• 3 85	• 3 85	• 3 70	• 3 75	100.0	96.1	97.4 A
Grenfell.....	• 2 48	• 2 80	• 2 80	• 2 80	112.9	112.9	112.9 A

Legend:

*Supplied by Municipal Fuel Plant.

†Supplied by Municipal Water Power Plant.

•Supplied by Commercial Fuel Plant.

§Supplied by Commercial Water Power Plant.

SASKATCHEWAN—Continued

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—Concluded

Gull Lake.....	* 2 95	* 4 50	* 4 50	* 4 50	152.5	152.5	152.5
Herbert.....	† 2 65	† 2 65	† 2 65	† 2 65	100.0	100.0	100.0
Indian Head.....	‡ 2 50	‡ 2 65	‡ 2 65	‡ 2 65	106.0	106.0	106.0
Kindersley.....	* 2 16	* 2 70	* 3 95	* 3 05	125.0	136.6	141.2
Lumsden.....	† 2 92	† 3 25	† 3 25	† 3 25	111.3	111.3	111.3 A
Maple Creek.....	† 3 25	† 3 25	† 3 25	† 3 25	100.0	100.0	100.0 A
Melville.....	* 2 11	* 2 95	* 2 95	* 2 95	139.8	139.8	139.8 A
Moose Jaw.....	* 1 70	* 1 60	* 1 60	* 1 60	123.1	123.1	123.1
North Battleford.....	† 3 15	† 3 82	† 4 25	† 4 25	91.4	91.4	91.4
Qu'Appelle.....	† 2 95	† 4 10	† 4 00	† 4 05	121.3	134.9	134.9 A
Radisson.....	* 1 44	* 1 40	* 1 40	* 1 26	135.6	137.3 A	137.3 A
Regina.....	* 2 50	* 3 00	* 2 80	* 2 85	97.2	97.2	90.0
Saltcoats.....	* 1 20	* 1 20	* 1 20	* 1 20	120.0	112.0	114.0 A
Saskatoon.....	* 2 50	* 2 50	* 2 50	* 2 50	100.0	100.0	100.0
Scott.....	† 4 25	† 4 75	† 4 25	† 4 25	100.0	100.0	100.0 A
Semans.....	† Flat rate.				111.8	100.0	100.0
Stenen.....	† 3 10	† 3 10	† 3 10	† 3 10	100.0	100.0	100.0
Strassburg.....	† 2 80	† 2 80	† 2 80	† 2 80	100.0	100.0	100.0
Watrous.....	* 5 00	* 2 02	* 2 02	* 2 02	40.4	40.4	40.4
Weyburn.....	* 2 92	* 2 92	* 3 00	* 3 00	100.0	102.7	102.7
Wolsely.....	* 1 14	* 1 35	* 1 80	* 1 80	118.4	157.9	157.9
Prince Albert.....	* 1 62	* 2 16	* 2 16	* 2 16	133.3	133.3	133.3 A
Yorkton.....							

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

Arcoia.....	3 82	3 82	4 00	4 00	100.0	104.7	104.7
Battleford.....	2 55	2 72	2 72	2 72	106.7	106.7	106.7 A
Canora.....	4 20	4 25	4 25	4 25	101.2	101.2	101.2 A
Davidson.....	3 25	3 85	3 85	3 85	118.5	118.5	118.5 A
Govan.....	5 10	5 10	5 10	5 10	100.0	100.0	100.0
Grenfell.....	3 28	3 70	3 70	3 70	112.8	112.8	112.8
Gull Lake.....	3 85	5 75	5 75	5 75	149.4	149.4	149.4 A
Herbert.....	3 45	3 45	3 45	3 45	100.0	100.0	100.0 A
Indian Head.....	3 45	3 45	3 45	3 45	106.2	106.2	106.2 A
Kindersley.....	2 88	3 60	4 40	4 55	125.0	152.8	158.0 A
Lumsden.....	3 82	4 25	4 25	4 25	111.3	111.3	111.3
Maple Creek.....	4 25	4 25	4 25	4 25	100.0	100.0	100.0
Melville.....	2 74	3 85	3 85	3 85	100.0	100.0	100.0
Moose Jaw.....	1 66	1 95	1 95	1 95	117.5	117.5	117.5 A
North Battleford.....	2 30	2 10	2 10	2 10	91.3	91.3	91.3
Qu'Appelle.....	4 05	4 95	5 50	5 50	122.2	135.8	135.8
Radisson.....	3 85	5 35	4 10	4 10	139.0	106.5	106.5 A
Regina.....	1 85	1 71	1 71	1 53	92.4	92.4	82.7
Saltcoats.....	3 25	4 00	3 90	4 00	123.1	120.0	123.1
Saskatoon.....	1 62	1 60	1 60	1 60	98.8	98.8	98.8 A
Scott.....	3 25	3 25	3 25	3 25	100.0	100.0	100.0
Semans.....	5 50	6 17	5 70	5 70	112.2	103.6	103.6 A
Strassburg.....	4 05	4 05	4 05	4 05	100.0	100.0	100.0
Watrous.....	3 65	3 65	3 65	3 65	100.0	100.0	100.0
Weyburn.....	5 00	2 48	2 48	2 48	49.6	49.6	49.6
Wolsely.....	3 82	3 82	4 00	4 00	100.0	104.7	104.7
Prince Albert.....	1 52	1 80	2 25	2 25	118.4	148.0	148.0 A
Yorkton.....	2 16	2 88	2 88	2 88	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

Arcoia.....	7 42	7 42	8 00	8 00	100.0	107.8	107.8
Battleford.....	4 95	5 44	5 44	5 44	109.9	109.9	109.9
Canora.....	8 20	8 25	8 25	8 25	100.6	100.6	100.6
Davidson.....	6 25	7 45	7 45	7 45	119.2	119.2	119.2
Govan.....	10 10	10 10	10 00	10 00	100.0	99.0	99.0
Grenfell.....	6 48	7 30	7 30	7 30	112.7	112.7	112.7
Gull Lake.....	7 45	10 75	10 75	10 75	144.3	144.3	144.3
Herbert.....	6 65	6 65	6 65	6 65	100.0	100.0	100.0
Indian Head.....	6 65	6 65	6 65	6 65	109.9	109.9	109.9
Kindersley.....	5 76	7 20	8 80	9 10	125.0	152.8	157.9
Lumsden.....	7 42	8 25	8 25	8 25	111.2	111.2	111.2
Maple Creek.....	8 25	8 25	8 25	8 25	100.0	100.0	100.0
Melville.....	5 26	7 45	7 45	7 45	141.6	141.6	141.6

Legend:

* Supplied by Municipal Fuel Plant.

† Supplied by Municipal Water Power Plant.

‡ Supplied by Commercial Fuel Plant.

§ Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

SASKATCHEWAN—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—Concluded

Moose Jaw.....	3 10	3 20	3 20	3 20	103.2	103.2	103.2
North Battleford.....	4 50	4 10	4 10	4 10	91.1	91.1	91.1 A
Qu'Appelle.....	7 65	9 45	10 50	10 50	123.5	137.3	137.3
Radisson.....	7 45	10 35	5 80	5 80	138.9	77.9	77.9
Regina.....	3 47	2 79	2 79	2 43	80.4	80.4	70.0
Saltcoats.....	6 25	8 00	8 50	9 00	128.0	136.0	144.0
Saskatoon.....	3 24	3 20	3 20	3 20	98.8	98.8	98.8
Scott.....	6 25	6 25	6 25	6 25	100.0	100.0	100.0
Semans.....	10 50	11 25	10 90	10 80	107.1	103.8	102.9
Strassburg.....	7 85	7 85	7 85	7 85	100.0	100.0	100.0 A
Watrous.....	7 05	7 05	7 05	7 05	100.0	100.0	100.0
Weyburn.....	5 00	4 27	4 27	4 27	85.4	85.4	85.4 A
Wolseley.....	7 42	7 42	5 00	5 00	100.0	67.4	67.4 A
Prince Albert.....	3 04	3 60	4 05	4 05	118.4	133.2	133.2
Yorkton.....	4 32	5 76	5 76	5 76	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Arcola.....	11 02	11 02	12 00	12 00	100.0	108.9	108.9
Battleford.....	7 35	8 16	8 16	8 16	111.0	111.0	111.0
Canora.....	12 20	12 25	12 25	12 25	100.4	100.4	100.4
Davidson.....	9 25	11 05	11 05	11 05	119.5	119.5	119.5
Govan.....	15 10	15 10	14 00	14 00	100.0	92.7	92.7
Grenfell.....	9 68	10 90	10 90	10 90	112.6	112.6	112.6
Gull Lake.....	11 05	15 75	15 75	15 75	142.5	142.5	142.5
Herbert.....	9 85	9 85	9 85	9 85	100.0	100.0	100.0
Indian Head.....	8 65	9 60	9 60	9 60	111.0	111.0	111.0
Kindersley.....	8 46	10 62	13 00	15 40	125.5	153.7	182.0
Lumsden.....	11 02	12 25	12 25	12 25	111.2	111.2	111.2
Maple Creek.....	12 25	12 25	12 25	12 25	100.0	100.0	100.0
Melville.....	7 78	11 05	11 05	11 05	142.0	142.0	142.0
Moose Jaw.....	4 55	4 35	4 35	4 35	95.6	95.6	95.6
North Battleford.....	6 70	6 10	6 10	6 10	91.0	91.0	91.0
Qu'Appelle.....	11 25	13 95	15 50	15 50	124.0	137.8	137.8
Radisson.....	11 05	15 35	6 15	6 20	138.9	55.7	56.1
Regina.....	5 09	3 87	3 87	3 33	76.0	76.0	65.4 A
Saltcoats.....	9 25	12 00	12 00	13 00	129.7	129.7	140.5
Saskatoon.....	4 86	4 80	4 80	4 80	98.8	98.8	98.8
Scott.....	9 25	9 25	9 25	9 25	100.0	100.0	100.0
Semans.....	15 50	16 65	16 40	16 20	107.4	105.8	104.5
Strassburg.....	10 15	10 15	10 15	10 15	100.0	96.9	96.9
Watrous.....	10 45	10 45	10 45	10 45	100.0	100.0	100.0
Weyburn.....	5 00	5 90	5 90	5 90	118.0	118.0	118.0
Wolseley.....	11 02	11 02	8 00	8 00	100.0	72.6	72.6
Prince Albert.....	4 56	5 40	5 85	5 85	118.4	128.3	128.3
Yorkton.....	6 48	8 64	8 64	8 64	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Arcola.....	32 62	32 62	36 00	36 00	100.0	110.4	110.4
Battleford.....	20 95	23 84	23 84	23 84	113.8	113.8	113.8
Canora.....	36 20	36 25	36 25	36 25	100.1	100.1	100.1
Davidson.....	27 25	31 00	31 00	31 00	113.8	113.8	113.8
Govan.....	45 10	45 10	42 00	42 00	100.0	93.1	93.1
Grenfell.....	28 88	32 50	32 50	32 50	112.5	112.5	112.5
Gull Lake.....	32 65	45 75	45 75	45 75	140.1	140.1	140.1
Herbert.....	29 05	29 05	29 05	29 05	100.0	100.0	100.0
Indian Head.....	24 25	27 25	27 25	27 25	112.4	112.4	112.4
Kindersley.....	22 86	28 62	37 85	42 10	125.2	155.6	184.2
Lumsden.....	32 62	36 25	36 25	36 25	111.1	111.1	111.1
Maple Creek.....	34 65	34 65	34 65	34 65	100.0	100.0	100.0
Melville.....	22 90	32 65	32 65	32 65	142.6	142.6	142.6
Moose Jaw.....	13 36	8 70	8 70	8 70	65.1	65.1	65.1
North Battleford.....	19 10	17 30	17 30	17 30	90.6	90.6	90.6
Qu'Appelle.....	32 85	40 95	45 50	45 50	124.7	138.5	138.5
Radisson.....	32 65	45 35	45 00	45 00	138.9	137.8	137.8
Regina.....	14 81	10 35	10 35	8 73	69.9	69.9	68.9
Saltcoats.....	27 25	36 00	41 00	43 00	132.1	150.5	157.8
Saskatoon.....	13 59	13 30	13 30	13 30	97.9	97.9	97.9
Scott.....	27 25	27 25	27 25	27 25	100.0	100.0	100.0
Semans.....	45 50	43 60	43 20	43 20	95.8	94.9	94.9
Strassburg.....	19 80	19 80	19 80	19 80	100.0	100.0	100.0
Watrous.....	27 25	27 25	27 25	27 25	100.0	100.0	100.0
Weyburn.....	9 00	12 38	12 38	12 38	137.6	137.6	137.6
Wolseley.....	32 62	32 62	18 00	18 00	100.0	55.2	55.2
Prince Albert.....	12 96	15 50	15 93	15 93	119.6	122.9	122.9
Yorkton.....	19 44	25 92	25 92	25 92	133.3	133.3	133.3

CENTRAL ELECTRIC STATIONS

55

ALBERTA

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 15 KILOWATT HOURS							
Banff.....	† 1 65	† 1 65	† 1 65	† 1 53	100.0	100.0	92.7
Calgary.....	\$* 1 92	\$* 1 00	\$* 1 00	\$* 1 00	52.1	52.1	52.1
Clareholm.....	* 2 11	* 2 52	* 3 66	* 3 66	119.4	173.5	173.5 A
Cardston.....	* 2 05	* 2 65	* 2 65	* 2 65	129.3	129.3	129.3 A
Cochrane.....	† Flat rate: 50c. per				100.0	100.0	100.0
Edmonton.....	* 1 14	* 1 00	* 1 14	* 1 14	87.7	100.0	100.0
Fort Saskatchewan.....	* 2 38	* 2 38	* 2 38	* 2 38	100.0	100.0	100.0
High River.....	* 2 51	* 1 69	* 2 43	* 2 43	67.3	96.8	96.8
Hillcrest.....	† 2 75	† 2 75	† 2 25	† 2 25	100.0	81.8	81.8
Gleichen.....	† 5 25	† 5 25	† 3 75	† 2 93	100.0	71.4	55.8 A
Lethbridge.....	* 1 20	* 1 62	* 1 62	* 1 62	135.0	135.0	135.0
MacLeod.....	* 1 62	* 2 70	* 2 70	* 2 70	166.6	166.6	166.6
Medicine Hat.....	* 1 20	* 1 50	* 1 50	* 1 50	125.0	125.0	125.0
Raymond.....	† 2 19	† 2 19	* 2 10	* 2 10	100.0	95.9	95.9
Wetaskiwin.....	* 2 52	* 2 70	* 2 70	* 2 70	107.1	107.1	107.1

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS							
Banff.....	2 12	2 12	2 12	1 95	100.0	100.0	92.0 A
Calgary.....	2 25	1 08	1 08	1 08	48.0	48.0	48.0 A
Clareholm.....	2 79	3 33	4 06	4 06	119.4	145.5	145.5
Cardston.....	2 65	3 45	3 45	3 45	130.2	130.2	130.2
Edmonton.....	1 52	1 33	1 52	1 52	87.5	100.0	100.0
Fort Saskatchewan.....	3 10	3 10	3 10	3 10	100.0	100.0	100.0
High River.....	3 23	3 40	3 24	3 24	105.3	100.3	100.3 A
Hillcrest.....	3 50	3 50	3 00	3 00	100.0	85.7	85.7 A
Gleichen.....	6 50	6 50	5 00	3 83	100.0	76.9	58.9
Lethbridge.....	1 60	2 16	2 16	2 16	135.0	135.0	135.0
MacLeod.....	2 16	3 60	3 60	3 60	166.7	166.7	166.7 A
Medicine Hat.....	1 60	2 00	2 00	2 00	125.0	125.0	125.0 A
Raymond.....	2 89	2 89	2 80	2 80	100.0	96.9	96.9 A
Wetaskiwin.....	3 28	3 60	3 60	3 60	109.8	109.8	109.8

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS							
Banff.....	3 99	3 99	3 99	3 65	100.0	100.0	91.5
Calgary.....	3 60	2 16	2 16	2 16	60.0	60.0	60.0
Clareholm.....	5 99	6 57	8 16	8 16	109.7	136.2	136.2
Cardston.....	5 05	6 65	6 65	6 65	131.7	131.7	131.7
Edmonton.....	3 04	2 66	3 04	3 04	87.5	100.0	100.0 A
Fort Saskatchewan.....	5 98	5 98	5 98	5 98	100.0	100.0	100.0 A
High River.....	6 11	6 64	6 48	6 48	108.7	105.1	106.1
Hillcrest.....	6 50	6 50	6 00	6 00	100.0	92.3	92.3
Gleichen.....	11 50	11 50	10 00	7 43	100.0	86.9	64.6
Lethbridge.....	3 20	4 32	4 32	4 32	135.0	135.0	135.0 A
MacLeod.....	4 32	7 20	7 20	7 20	166.7	166.7	166.7
Medicine Hat.....	3 20	4 00	4 00	4 00	125.0	125.0	125.0
Raymond.....	5 69	5 69	5 60	5 60	100.0	98.4	98.4
Wetaskiwin.....	6 32	7 20	7 20	7 20	113.9	113.9	113.9

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS							
Banff.....	5 86	5 86	5 53	5 05	100.0	94.4	86.2
Calgary.....	4 95	3 24	3 24	3 24	65.5	65.5	65.5
Clareholm.....	8 19	9 81	12 24	12 24	119.8	149.5	149.5
Cardston.....	7 45	9 85	9 85	9 85	132.2	132.2	132.2
Edmonton.....	4 56	3 99	4 56	4 56	87.5	100.0	100.0
Fort Saskatchewan.....	8 86	8 86	8 86	8 86	100.0	100.0	100.0
High River.....	8 99	11 68	9 72	9 72	129.9	108.1	108.1
Hillcrest.....	9 50	9 50	9 00	9 00	100.0	94.7	94.7
Gleichen.....	16 50	16 50	15 00	11 03	100.0	90.9	66.8
Lethbridge.....	4 80	6 48	6 48	6 48	135.0	135.0	135.0
MacLeod.....	6 48	10 80	10 80	10 80	166.6	166.6	166.6
Medicine Hat.....	4 80	6 00	6 00	6 00	125.0	125.0	125.0
Raymond.....	8 49	8 49	8 40	8 40	100.0	98.9	98.9
Wetaskiwin.....	9 36	10 30	10 80	10 80	115.4	115.4	115.4

Legend:—

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

CENSUS OF INDUSTRY

ALBERTA—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Banff.....	17 08	17 08	16 09	14 65	100.0	94.2	85.8
Calgary.....	13 05	9 72	9 72	9 72	74.5	74.5	74.5
Clareholm.....	24 29	29 16	36 72	36 72	110.6	150.6	150.6
Cardston.....	21 85	29 05	29 05	29 05	133.0	133.0	133.0
Edmonton.....	12 80	11 97	13 63	13 63	93.5	106.9	106.9
Fort Saskatchewan.....	26 14	26 14	26 14	26 14	100.0	100.0	100.0
High River.....	26 10	29 16	29 16	29 16	111.7	111.7	111.7
Hillcrest.....	27 50	27 50	27 00	27 00	100.0	98.2	98.2
Gleichen.....	46 50	46 50	45 00	32 63	100.0	96.8	70.2
Lethbridge.....	13 76	17 82	17 82	17 82	129.5	129.5	129.5
MacLeod.....	19 44	32 10	32 10	32 10	165.1	165.1	165.1
Medicine Hat.....	14 40	18 00	18 00	18 00	125.0	125.0	125.0
Raymond.....	25 29	25 29	25 20	25 20	100.0	99.6	99.6
Wetaskiwin.....	27 60	32 40	32 40	32 40	117.4	117.4	117.4

BRITISH COLUMBIA

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

Alberni.....	* 1 71	* 2 25	* 2 65	* 2 48	131.6	155.0	145.0 A
Chase.....	† 2 35	† 2 35	† 2 35	† 2 35	100.0	100.0	100.0 A
Cumberland.....	* 1 89	* 1 89	* 1 80	* 1 80	100.0	95.2	95.2 A
Fernie.....	† 2 16	† 1 50	† 1 50	† 1 50	69.4	69.4	69.4 A
Duncan.....	* 2 40	* 2 08	* 2 10	* 2 10	86.7	87.5	87.5 A
Kamloops.....	* 2 20	* 2 20	* 2 20	* 2 20	100.0	100.0	100.0 A
Kelowna.....	* 1 80	* 1 80	* 1 80	* 1 80	100.0	100.0	100.0 A
Nanaimo.....	† 2 02	† 1 75	† 1 75	† 1 75	86.6	86.6	86.6 A
Nelson.....	† 1 60	† 1 60	† 1 60	† 1 60	100.0	100.0	100.0 A
New Westminster.....	† 1 33	† 1 08	† 1 08	† 1 08	81.2	81.2	81.2 A
Port Alberni.....	† 1 57	* 2 28	* 1 87	* 1 87	145.2	119.1	119.1 A
Prince George.....	† 3 55	* 2 89	* 2 89	* 2 89	81.4	81.4	81.4 A
Princeton.....	† 2 50	† 2 50	† 2 50	† 2 50	100.0	100.0	100.0 A
Prince Rupert.....	† 2 65	† 1 13	† 1 04	† 1 05	42.6	39.2	39.2 A
Revelstoke.....	† 1 68	† 2 02	† 2 05	† 2 05	120.2	122.0	122.0 A
Rossland.....	† 1 57	† 1 57	† 1 35	† 1 35	100.0	86.0	86.0 A
Summerland.....	† 3 00	† 1 89	† 1 89	† 1 89	63.0	63.0	63.0 A
Vancouver.....	† 1 44	† 1 08	† 0 75	† 0 75	75.0	52.1	52.1 A
Victoria.....	† 1 48	† 1 25	† 1 25	† 1 25	84.5	84.5	84.5 A

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

Alberni.....	2 20	2 92	2 91	2 78	132.7	132.2	126.3
Chase.....	3 05	3 05	3 05	3 05	100.0	100.0	100.0
Cumberland.....	2 52	2 52	2 34	2 34	100.0	92.9	92.9 A
Fernie.....	2 83	1 95	1 95	1 95	68.9	68.9	68.9 A
Duncan.....	3 20	2 72	2 75	2 75	85.0	85.9	85.9 A
Kamloops.....	2 85	2 85	2 85	2 85	100.0	100.0	100.0 A
Kelowna.....	2 40	2 15	2 15	2 15	89.6	89.6	89.6 A
Nanaimo.....	2 65	2 29	2 29	2 29	86.4	86.4	86.4 A
Nelson.....	2 05	2 05	2 05	2 05	100.0	100.0	100.0 A
New Westminster.....	1 76	1 44	1 44	1 44	81.8	81.8	81.8 A
Port Alberni.....	2 01	2 95	2 41	2 41	146.8	123.0	123.0 A
Prince George.....	4 65	3 77	3 77	3 77	81.1	81.1	81.1 A
Princeton.....	3 25	3 25	3 25	3 25	100.0	100.0	100.0 A
Prince Rupert.....	3 46	1 50	1 38	1 40	43.4	39.9	40.5 A
Revelstoke.....	2 20	2 47	2 50	2 50	112.2	113.6	113.6 A
Rossland.....	2 02	2 02	1 80	1 80	100.0	89.1	89.1 A
Summerland.....	3 00	2 52	2 52	2 52	84.0	84.0	84.0 A
Vancouver.....	1 89	1 40	1 00	1 00	74.1	52.9	52.9 A
Victoria.....	1 92	1 60	1 60	1 60	83.3	83.3	83.3 A

Legend:—

*Supplied by Municipal Fuel Plant

†Supplied by Municipal Water Power Plant

‡Supplied by Commercial Fuel Plant

§Supplied by Commercial Water Power Plant

BRITISH COLUMBIA—Concluded

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 40 KILOWATT HOURS							
Alberni.....	4 18	5 62	4 71	4 62	134.5	112.7	110.5
Chase.....	5 85	5 85	5 85	5 85	100.0	100.0	100.0
Cumberland.....	4 95	4 95	4 59	4 59	100.0	92.7	92.7
Fernie.....	5 53	3 21	3 21	3 21	58.0	58.0	58.0 A
Duncan.....	6 40	5 28	5 30	5 30	82.5	82.8	82.8
Kamloops.....	5 45	5 45	5 45	5 45	100.0	100.0	100.0
Kelowna.....	4 80	3 55	3 55	3 55	74.0	74.0	74.0
Nanaimo.....	5 08	4 36	4 36	4 36	85.8	85.8	85.8
Nelson.....	2 96	2 96	2 96	2 96	100.0	100.0	100.0
New Westminster.....	3 52	2 88	2 88	2 88	81.8	81.8	81.8 A
Port Alberni.....	3 72	5 65	4 57	4 57	151.9	122.8	122.8
Prince George.....	9 05	7 29	7 29	7 29	80.6	80.6	80.6
Princeton.....	6 25	6 25	6 25	6 25	100.0	100.0	100.0
Prince Rupert.....	6 70	3 00	2 69	2 40	44.8	40.1	35.8 A
Revelstoke.....	4 28	4 27	4 30	4 30	99.8	100.5	100.5
Rossland.....	3 82	3 82	3 60	3 60	100.0	94.2	94.2
Summerland.....	5 00	5 04	5 04	5 04	100.8	100.8	100.8
Vancouver.....	3 64	2 68	2 00	2 00	73.6	54.9	54.9 A
Victoria.....	3 68	3 00	3 00	3 00	81.5	81.5	81.5 A

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

Alberni.....	6 16	8 32	8 20	8 00	135.1	133.1	129.9
Chase.....	8 65	8 65	8 65	8 65	100.0	100.0	100.0
Cumberland.....	7 29	7 29	6 75	6 75	100.0	92.6	92.6
Duncan.....	9 60	7 68	7 70	7 70	80.0	80.2	80.2
Kamloops.....	7 85	7 85	7 85	7 85	100.0	100.0	100.0
Kelowna.....	7 20	4 95	4 95	4 95	68.8	68.8	68.8
Nanaimo.....	7 42	6 35	6 35	6 35	85.6	85.6	85.6
Nelson.....	3 30	3 30	3 30	3 30	100.0	100.0	100.0
New Westminster.....	5 28	4 32	4 32	4 32	81.8	81.8	81.8
Port Alberni.....	5 45	8 13	6 64	6 64	149.2	123.0	123.0
Prince George.....	13 45	10 49	10 49	10 49	78.0	78.0	78.0
Princeton.....	9 00	9 00	9 00	9 00	100.0	100.0	100.0
Prince Rupert.....	9 94	4 50	4 05	2 80	45.3	40.7	28.2
Revelstoke.....	6 04	6 07	6 10	6 10	100.5	100.9	100.9
Rossland.....	5 62	5 62	5 40	5 40	100.0	96.1	96.1
Summerland.....	7 50	7 42	7 42	7 42	98.9	98.9	98.9
Vancouver.....	5 32	3 96	2 64	2 64	74.4	49.6	49.6
Victoria.....	5 36	4 40	4 40	4 40	82.1	82.1	82.1
Fernie.....	8 23	3 93	3 93	3 93	47.8	47.8	47.8

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

Alberni.....	18 04	24 52	23 25	22 90	135.9	128.9	126.9
Chase.....	25 45	25 45	25 45	25 45	100.0	100.0	100.0
Cumberland.....	19 53	19 53	17 91	17 91	100.0	91.7	91.7
Fernie.....	24 43	8 25	8 25	8 25	33.8	33.8	33.8
Duncan.....	28 80	19 36	19 40	19 40	67.2	67.4	67.4
Kamloops.....	19 45	19 45	19 45	19 45	100.0	100.0	100.0
Kelowna.....	21 60	13 35	13 35	13 35	61.8	61.8	61.8
Nanaimo.....	18 66	16 42	16 42	16 42	88.0	88.0	88.0
Nelson.....	5 98	5 98	5 98	5 98	100.0	100.0	100.0
New Westminster.....	15 84	12 00	12 00	12 00	75.7	75.7	75.7
Port Alberni.....	14 41	19 56	17 53	17 53	135.7	121.7	121.7
Prince George.....	39 85	28 41	28 41	28 41	71.3	71.3	71.3
Princeton.....	21 60	21 60	21 60	21 60	100.0	100.0	100.0
Prince Rupert.....	29 88	13 50	10 13	5 20	45.9	34.5	17.7
Revelstoke.....	14 68	14 71	14 70	14 70	100.2	100.1	100.1
Rossland.....	15 70	15 70	15 50	15 50	100.0	98.7	98.7
Summerland.....	22 50	19 84	19 84	19 84	88.2	88.2	88.2
Vancouver.....	14 29	11 65	5 40	5 40	81.5	37.8	37.8
Victoria.....	9 14	12 80	12 80	12 80	140.0	140.0	140.0

CENSUS OF INDUSTRY

YUKON TERRITORY

Municipality	Monthly Bills				Index Numbers		
	1913	1923	1924	1925	1923	1924	1925
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS

White Horse.....	‡ 6 50	‡ 6 50	‡ 6 50	‡ 6 50	100·0	100·0	100·0
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MONTHLY CONSUMPTION OF 20 KILOWATT HOURS

White Horse.....	8 50	8 50	8 50	8 50	100·0	100·0	100·0 A
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MONTHLY CONSUMPTION OF 40 KILOWATT HOURS

White Horse.....	16 50	16 50	16 50	16 50	100·0	100·0	100·0
------------------	-------	-------	-------	-------	-------	-------	-------

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS

White Horse.....	24 50	24 50	24 50	24 50	100·0	100·0	100·0
------------------	-------	-------	-------	-------	-------	-------	-------

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS

White Horse.....	72 50	72 50	67 50	67 50	100·0	93·1	93·1
------------------	-------	-------	-------	-------	-------	------	------

Legend:

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

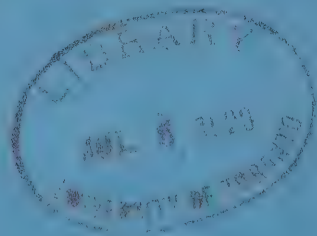
CENSUS OF INDUSTRY, 1926

PART 1—STATISTICS

CENTRAL ELECTRIC STATIONS IN CANADA

Prepared in collaboration with the Dominion Water Power and Reclamation Service, Department of the Interior, with the assistance of The Ontario Hydro-Electric Power Commission, The Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and the Manitoba Power Commission)

Published by authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce



OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1928

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PREFACE

The data pertaining to the central electric station industry in Canada is collected and the report is compiled by the Bureau under authority of the Statistics Act, 8-9, George V, Chap. 43.

The Bureau is indebted to the Dominion Water Power and Reclamation Service of the Interior Department for checking both the schedules and the report, which was done under a co-operative arrangement made when the annual census was inaugurated. The Bureau also wishes to gratefully acknowledge the assistance received from the Electricity and Gas Inspection Service of the Department of Trade and Commerce and from the several provincial power commissions.

The appendix covering domestic lighting rates and index numbers included in the report for 1925 has been extended to include 1926 data and added to this report.

During 1927, the Bureau, with the co-operation of the large central electric stations, inaugurated a monthly report of electric energy generated and incorporated the data in the Monthly Review of Business Statistics which report is published by the Bureau each month. These data for the years 1925, 1926 and 1927 have also been added to this report as an appendix.

The report is being issued in two sections, Part 1, as above, presenting a general census and statistical digest of the industry as at January 1, 1927, and Part 2, comprising a comprehensive Directory of all public or privately owned organizations distributing electric energy for sale. While the data included in the Directory is based on the statistics of Part 1, the Directory covers conditions as on May 1, 1928. Copies of Part 1 (Statistical) of the report may be obtained upon application to the Dominion Bureau of Statistics. For Part 2 (Directory) applications should be addressed to the Director of Water Power and Reclamation Service, Ottawa. An annual report is also published by the Electricity and Gas Inspection Service Branch, of the Department of Trade and Commerce, giving the names of all companies registered under the Electric Inspection Act, the type of prime mover, phase, frequency and voltages of each system and the number of meters in each municipality.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, February 8, 1928.

NOTE ON CANADIAN WATER-POWERS

BY

The Dominion Water Power and Reclamation Service

The industrial structure of Canada is so largely dependent upon the utilization of water power developed by the manufacturing industries themselves or made available to them by the central electric station industry that any report analytical of the statistics of the latter industry would be incomplete without special reference to the availability and development of water power.

By the end of 1927 Canada had a total hydraulic installation of 4,777,921 horse-power of which over 82 per cent was installed in central electric stations, while for several years past the electrical output of these hydraulically driven central stations has been in excess of 98 per cent of the total electricity distributed in Canada for public use.

The administration of the water resources of the Dominion, is in accordance with the terms of the British North America Act of 1867, a divided federal and provincial responsibility.

The federal authority extends over the water-powers of the provinces of Alberta, Saskatchewan and Manitoba and the Yukon and Northwest Territories, administrative control being exercised by the Dominion Water Power and Reclamation Service, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water-power administration in their respective provinces. The federal Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the province of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island were the property of the respective provinces before Confederation, administrative control of water powers situated within these provinces became vested in the legislative assemblies, active administration being carried on in British Columbia¹ by the Department of Lands; in Ontario, by the Department of Lands and Forests; in Quebec, by the Department of Lands and Forests; in New Brunswick, by the Department of Lands and Mines; in Nova Scotia by the Commissioner of Public Works and Mines; and in Prince Edward Island, by the Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

¹Title to water powers in the Railway Belt of British Columbia is vested in the Federal Government, although they are at present administered under the Provincial Water Act.

During the year 1927 the hydraulic installation of Canada was increased by 221,655 horse-power actually placed in operation while other construction progressed to the point where an additional 378,000 horse-power will be in place by the fall of 1928, by which time over five million horse-power will be installed to contribute to the industrial development and domestic amenities of the country.

As has been the case in each of the three preceeding years Quebec showed the greatest gain for the year 1927, viz., 149,280 horse-power, Manitoba being second with 28,000 horse-power and Ontario third with 26,320 horse-power; British Columbia and the Maritime Provinces also contributing to the total.

The continued constructional activity of the Gatineau Power Company, on the Gatineau river, was the largest factor in development in the province of Quebec. The Chelsea development commenced operation in January with a 34,000 horse-power unit installed in December, 1926, and so included in last year's total. Two further units of similar capacity were brought into operation later in the year and provision exists for two further units which will give the plant a total installation of 170,000 horse-power. At the Farmers Rapids Station, one mile down stream, three 24,000 horse-power units were brought into operation and as at the Chelsea plant provision made for two further units giving the plant an ultimate capacity of 120,000 horse-power. About 27 miles above Chelsea, the construction of the third station, Pagan Falls, was vigorously carried on. Here six units of 34,000 horse-power each are expected to be in operation by September, 1928. A fourth plant on the same river, near Maniwaki, is contemplated by the company when load conditions warrant.

The present distribution of power from the Gatineau Power Company's Gatineau river stations is to supply the demands of the International Paper Company's newsprint mill at Gatineau, which has a capacity of 500 tons of newsprint daily, and to meet local demands in the Hull district. In addition contracts have been made with the Hydro-Electric Power Commission of Ontario, whereby the commission will secure 260,000 horse-power to augment the supply to its Niagara system and 60,000 horse-power further power for the Ottawa and Rideau systems.

During the year the Gatineau Power Company also acquired the Ottawa-Montreal Power Company and the Quebec Southern Power Corporation, enlarging the latter company's Rawdon plant on the Oureau river from 300 to 2,150 horse-power.

The Shawinigan Water and Power Company commenced preliminary construction on the installation of an additional 40,000 horse-power unit in Station Number 2 at Shawinigan Falls and placed in operation a 4,000 horse-power plant at St. Alban, on Ste. Anne de la Perade river, superceding a smaller plant destroyed by flood.

The same company completed its 165,000 v. transmission line through 136 miles of almost uninhabited territory to convey power from the Duke-Price Power Company's station on the Saguenay river to the city of Quebec. This line is operated at the highest voltage of any in Canada and is designed to carry over 100,000 horse-power.

The Alcoa Power Company actively pressed the development of its Chute-a-Caron site on the Saguenay river. This plant will have an ultimate development of 800,000 horse-power.

Among projects or extensions under active construction may be mentioned a 65,000 horse-power development by the Montreal Island Power Company on des Prairies river, the addition of two 10,000 horse-power units to the Quinze river station of Canada Northern Power Corporation to be ready in July, 1928, continued construction on the Ontario Paper Company's plant on the Outardes river where 40,000 horse-power is to be installed, the letting of a contract by

the City of Sherbrooke for a 5,800 horse-power plant at Westbury on St. Francois river and the authorization of a new 25,000 horse-power unit in the Ottawa River Power Company's station near Bryson on the Ottawa river.

No résumé of hydraulic development in Quebec province is complete without reference to the outstanding work of the Quebec Streams Commission in creating and maintaining extensive storage reservoirs on the Gatineau, St. Maurice, St. Francois, Ste. Anne de Beaupre, Mitis and North rivers and in lake Kenogami.

In Manitoba the gain for the year was due to the installation of a fourth unit of 28,000 horse-power in the plant of the Manitoba Power Company at Great Falls on the Winnipeg river. It is reported that the city of Winnipeg is considering the development of Slave falls on the Winnipeg river with a view of having the initial installation completed by 1931, and that the Whitney Mining interests owning the Flin Flon mine, 70 miles northwest of the Pas, propose developing either Whitemud falls on the Nelson or Island falls on the Churchill river in connection with the development of that mine. An initial development of 30,000 horse-power to 40,000 horse-power is proposed with a 170 mile transmission line from the plant to the mine.

The increase of 26,320 horse-power in the Ontario installation was chiefly due to the Ontario and Minnesota Power Companies completing two new plants on Seine river: one of 10,000 horse-power at Sturgeon Falls and a second of 14,420 horse-power at Moose Lake. A third plant is nearing completion at Calm lake on the same river where 13,200 horse-power will go into operation early in 1928. The power from these three plants is for use in the controlling company's pulp and paper mill in Fort Frances.

The Hydro-Electric Power Commission of Ontario actively carried forward construction of its new 54,000 horse-power development at Alexander Landing on Nipigon river. This plant is expected to be in operation early in 1929 and will serve, through the Thunder Bay System, Port Arthur, Fort William and industries in that district. The commission also carried on construction on its line, from Fitzroy Harbour on the Ottawa river to Toronto, for the transmission at 220,000 v. of the 260,000 horse-power which is being purchased from the Gatineau Power Company.

In northern Ontario on the Mattagami river the Spruce Falls Company made rapid progress on its development at Smoky Falls where an initial installation of 56,250 horse-power is expected to deliver power by August, 1928.

The International Nickel Company of Canada, Limited, expects to commence construction of a 28,200 horse-power development with Spanish river about March, 1928.

In British Columbia the principal activities were these of the West Kootenay Power and Light Company which has under construction a 60,000 horse-power development at South Slocan on the Kootenay river and of subsidiaries of the British Columbia Electric Railway Company, viz., the Burrard Power Co., Ltd., and Bridge River Power Co., Ltd.

The Burrard Power Company, Limited, completed the construction of its 12,500 horse-power station on the shore of Stave lake while the Bridge River Power Co., Limited carried on extensive preparatory work in connection with its Bridge river project which when completed will be the largest development in the province. It is planned to have the initial installation of the Bridge River station, two 28,000 horse-power units, completed by the end of 1930.

Many projects of outstanding interest are under consideration in the province and great activity during the next few years is indicated.

In the Maritime Provinces construction rapidly progressed on the Saint John River Power Company's Grand Falls, N.B., plant. This company, a subsidiary of the International Paper Company expects one 20,000 horse-power unit of its 80,000 horse-power development to be in operation by July, 1928.

The Nova Scotia Power Commission completed the Sandy Lake stage of its St. Margaret's Bay development to supplement the power furnished by the Tidewater and Mill Lake stations. Two units of 2,500 horse-power each were installed and the output will be carried over the commission's transmission lines to Halifax.

The Avon River Power Company has under construction a third hydro-electric station, its second on the Avon river, where 4,350 horse-power is expected to be in place by midsummer, 1928.

Many projects are under active consideration in the Maritimes among which may be mentioned developments on the Nipisiguit river in the New Brunswick and East River Sheet Harbour, Liverpool river and Midway rivers in Nova Scotia.

The Dominion Water Power and Reclamation Service, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful reanalysis and computation by the service, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hour power at 80 per cent efficiency		Turbine installation h.p.
	At ordinary minimum flow h.p.	At ordinary six month flow h.p.	
1	2	3	4
British Columbia.....	1,931,000	5,103,500	473,142
Alberta.....	390,000	1,049,500	34,107
Saskatchewan.....	542,000	1,082,000	35
Manitoba.....	3,309,000	5,344,500	255,125
Ontario.....	5,330,000	6,940,000	1,816,908
Quebec.....	8,459,000	13,064,000	2,064,723
New Brunswick.....	87,000	120,800	47,231
Nova Scotia.....	20,800	128,300	71,017
Prince Edward Island.....	3,000	5,300	2,434
Yukon and Northwest Territories.....	125,200	275,300	13,199
	20,197,000	33,113,200	4,777,921

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 500 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, December 15, 1927.

CENTRAL ELECTRIC STATION INDUSTRY, 1926

The census of the central electric station industry in Canada is taken each year by means of questionnaires or schedules sent by mail to all central electric stations. None of the data is collected by officials of the bureau going into the field, but all schedules are examined and revised by the bureau's staff and missing data or corrections are secured by correspondence.

For the purpose of the census, central electric stations are defined as companies, municipalities or individuals selling or distributing electric energy, whether generated by themselves or purchased for resale. The stations are divided into two classes according to ownership, viz., (a) commercial, those operated by companies or individuals, and (b) municipal, those operated by municipal, provincial or federal governments. These classes are quite commonly called private and public ownership, but the nomenclature adopted by the bureau has been commercial and municipal. The stations are also divided according to operation into (a) generating, those stations generating power which they sell; many of them also purchase power to supplement their own output, and (b) non-generating, those stations which purchase all the power they sell. In this second class there were five stations which had equipment held for emergencies and which generated power when necessary. This explains the rather anomalous item in table 15 showing the output of non-generating stations. Nearly three-quarters of the electricity so generated in 1926 was produced by the station at Windsor, Ont., which was supplied with power by the Hydro-Electric Power Commission of Ontario. This station also generated power with steam purchased from a salt plant, but it has dismantled the generating plant and the output of the standby plant of non-generating stations will be considerably smaller in subsequent years.

In table 4 the number of stations has not been shown, but the individual power plants have been enumerated. In some cases two or more of these are operated by one company, some of them being close together, and others miles apart. Each separate plant is counted, however, irrespective of its location. The organizations reporting are counted as they report. If an organization makes a separate report for each of its subsidiary companies, each such subsidiary company is counted and if they are all included in one report they are counted as only one organization. The nature of control is so varied that it is not practicable to do otherwise.

The capital employed in the industry is reported under four heads, viz., generation, transmission, distribution and general. Generation includes investments in power houses and sites, including dams, penstocks, flumes, storage and regulating structures, surge tanks, storage basins, etc., and equipment in power houses, except step-up transformers or other transmission equipment. Transmission includes investments in receiving stations and sites, right of way of transmission lines and step-up transformers. Distribution includes investments in substations and sites and right of way of distribution lines, switchboards and step-down transformers in receiving stations and substations, distribution lines, line transformers, meters, etc. General includes investments in office buildings, sites and fixtures, materials and supplies on hand, cash, trading and operating accounts and bills receivable. The total represents the capital employed in the industry. The schedule requests that investments in other enterprises be excluded. Transmission lines include only lines from the power house to receiving station and distribution lines include all lines from receiving station to substations and to customers, and where power is not stepped up in the power house for transmission, all lines are considered as distribution lines.

The revenue is reported under two heads (a) revenue received from sale of electricity for lighting purposes, and (b) revenue received from the sale of electricity from power purposes and to other stations for resale. The stations are asked to make this division and to estimate it where it is impossible to make the division accurately. There are large quantities of electricity interchanged between stations, some of it passing through three stations before reaching the consumer. It is quite evident that the total revenue reported by the stations would contain considerable duplication. This duplication has led to misinterpretation of the data and comparisons have been made between rates charged by groups of stations by dividing the total gross revenue by the total kilowatt hours of output and calling the result the cost of electricity. Such comparisons are incorrect since they ignore not only the large duplication of revenue, but also the factor of service which is one of the major items in determining rates for electric energy. Another important factor in determining rates is interest on investment which is probably higher in relation to income than for any other industry, although this is offset by little or no expenses for materials. Especially is this true with hydro electric stations and stations with large transmission and distribution systems.

It is quite obvious that small local plants supplying electricity to a few small power customers, but mainly for lighting purposes will be used to capacity only a few hours each day and the remainder of the time will be either idle or generating only a small percentage of their capacities; also that large plants supplying power to mines, pulp and paper mills or such consumers where the power is used twenty-four hours a day will generate more closely to their maximum capacities and consequently can afford to charge much lower rates than the small stations. The effect of the service is quite apparent when analyzing tables 15 and 6. For example, in Saskatchewan where there are no hydro-electric stations, but numerous small local fuel stations, the output of all stations was only 15.7 per cent of the maximum capacity and the average net revenue for all output was 4.14 cents per kilowatt hour, whereas in Quebec where the large hydro-electric stations supply large blocks of power to pulp and paper mills and other users of twenty-four-hour power, the ratio of output to maximum capacity was 47.4 per cent for all classes of stations. This was three times as high as in Saskatchewan and the average net revenue was 0.53 cent per kilowatt hour, or only an eighth of the average in Saskatchewan. This does not mean that a consumer in Saskatchewan pays eight times as much for electricity as he would in Quebec for the same purpose and for the same quantity.

The appendix to this report shows the rates for domestic lighting in Regina, Saskatchewan, as compared with those in Montreal, Quebec as only 57 per cent higher for 40 kilowatt hours and 35 per cent higher for 180 kilowatt hours; data are not at present available to make comparisons of power rates. It is the large quantities of electricity sold for power purposes to consumers using it twenty-four hours a day throughout the year and at relatively low rates that materially affects the average revenue per kilowatt hour.

In Ontario where the majority of the municipalities buy their power from the provincial commission and the commission buys considerable power from private companies and all report the revenue received, the duplication in the gross revenue was \$16,665,178, or 42 per cent of the net revenue; in other provinces it was smaller.

To avoid confusion and to reduce the chance of error in using these data, this report shows only the net revenue in tables 1, 2 and 6 and the data for previous years in tables 1 and 2 have been revised to be comparable. Net revenue in this report is the total or gross revenue reported with duplications eliminated and not revenue less operating expenses as the term quite commonly means in financial statements. This net revenue is computed by subtracting the cost of power purchased from the total revenue reported by the stations.

This cost of power which is revenue for the selling stations and expense for the purchasing stations is shown in table 7.

Even the net revenue divided by the output of any group of stations will not give the correct average revenue per kilowatt hour on account of groups buying power being credited with the net revenue from such power but not with the kilowatt hours generated. Very few commercial stations purchase from municipal stations, but municipal stations purchase from commercial stations and in any attempt to make comparisons of cost of electricity as between commercial and municipal stations by this means this factor, as well as the other factors such as service, load, etc., should be considered.

The expenses in table 7 are not the total expenses, but only the four items shown, viz., wages, fuel, taxes and power, and any computations of profits from these data should include estimates of other expenses. Taxes in this table include income taxes, federal and municipal, property and other taxes. Many of the municipal stations pay little or no taxes, the total taxes reported by the municipal stations being only 9 per cent of the grand total although their capital was 43 per cent of the total capital and their revenue was 46 per cent of the total revenue. The taxes of the commercial stations amounted to 7.7 per cent of their net revenue, whereas with the municipal stations it was only 0.9 per cent.

Apparently the pay-roll and the number of employees are affected by the nature of the service as well as by the size of the stations. Table 2 shows that municipal stations generated only 35.5 per cent of the total of all stations, but served 57 per cent of the domestic light customers, 52.9 per cent of commercial light and 50 per cent of power customers and their pay roll was 56.9 per cent of the pay roll of all stations.

Domestic light customers include only private houses. Stores, offices, schools, etc. are classed as commercial light customers. Power customers include only customers buying electric energy on power rates. There are undoubtedly many customers buying on both domestic light and commercial light rates and classified accordingly, who operate small motors. Household appliances are generally operated on current sold at regular domestic light rates although in some cities special service charges are made, and, in some, special energy rates are charged for electric stoves, but not generally for other appliances.

The equipment of the power houses has been divided into two classes main plant and auxiliary or standby equipment. The auxiliary plant equipment includes all steam engines and turbines and internal combustion engines and dynamos driven by them in hydro-electric stations and all the equipment in non-generating stations. All other equipment is classed as main plant equipment and includes water wheels and turbines and generators driven by them in hydro-electric stations and all equipment in plants using fuel only. It is quite possible that some of the fuel stations have equipment held as standby equipment for use only in emergencies or for occasional peaks, but it is also classified as main plant equipment. Although a few of the hydro-electric stations use their steam equipment more or less regularly during periods of low water and during periods of heavy demand, the greater part of it is held strictly in reserve in case of accidents. Of the total of 176,865 horse-power of auxiliary primary power, 21,658 horse-power belonged to stations classed as non-generating and of the remaining 152,207 horse-power, only 60,291 horse-power was operated during 1926, generating 22,325,000 kilowatt hours or at only 5.7 per cent of the maximum capacity, whereas the water wheels in these hydro-electric stations which operated their auxiliary equipment generated 67 per cent of their maximum capacity. Consequently it is quite appropriate to call these engines and dynamo auxiliary plant equipment.

The more important additions to the industry during the year included a 5,000-horsepower water-wheel in the Grand Falls plant of the Maine and New Brunswick Power Company, two wheels of 45,000 horse-power each

installed in the Isle Maligne plants of the Duke Price Company which brought the capacity up to 450,000 horse-power and two wheels of 6,000 horse-power each installed in the Drummondville plant of the Southern Canada Power Company. The city of Winnipeg added two wheels of 8,000 horse-power each to their plant at Pointe du Bois on the Winnipeg river during October and November and on the same river at the Great Falls plant of the Manitoba Power Company one wheel rated at 28,000 horse-power was added. The West Kootenay Power Company installed a new wheel of 20,000 horse-power in their Lower Bonnington plant. The only important addition to the fuel stations was a 1,340-horsepower steam turbine installed by the Maritime Electric Company at Charlottetown, Prince Edward Island. There were also many additions of smaller units and several installations were under way which were put into operation during 1927, the largest of which was the development of power on the Gatineau river in Quebec by the Gatineau Power Company. This company started operating two of their plants during 1927 with initial installations of 102,000 horse-power and 72,000 horse-power.

Electricity is exported from Canada only by license granted by the Electricity and Gas Inspection Service of the Department of Trade and Commerce, and the same branch of the department has jurisdiction over the export duty which has been imposed since April 1, 1925. During the fiscal year ended March 31, 1927, the export duty amounted to \$357,421.89, as against \$288,392.41 for the previous year. The rate is three one-hundredths of one cent per kilowatt hour on all electric energy exported with certain exports excepted. Below is a table showing the quantities of power produced for export by each company and the total quantity generated by each. For the Hydro-Electric Power Commission of Ontario the output of only the Niagara system is shown as the other systems of the commission do not export any power. The commission's export data included 382,129,100 kilowatt hours of surplus power and the Canadian Niagara Power Company exported 71,500 kilowatt hours of surplus power. In both cases the surplus power is power which is supplied as available and can be withdrawn as desired. Other exports are on contracts and consequently vary with the requirements of the customers. The data for this table were compiled from the annual report of the Director of the Electricity and Gas Inspection Services.

KILOWATT HOURS EXPORTED TO UNITED STATES IN 1926 AND OUTPUT OF EXPORTING STATIONS

Company	*Kilowatt hours Produced for Export	Kilowatt hours Generated
Maine and New Brunswick Electric Power Company.....	8,092,541	10,433,948
Sherbrooke Railway and Power Company.....	223,460	12,664,500
Cedar Rapids Manufacturing and Power Company.....	375,611,723	758,068,723
Hydro-Electric Power Commission of Ontario (Niagara System).....	794,195,100	3,314,904,000
Canadian Niagara Power Company.....	325,758,673	596,397,123
Ontario and Minnesota Power Company.....	12,184,400	31,569,694
Western Canada Power Company.....	17,674,752	131,884,300
West Kootenay Power and Light Company.....	604,300	410,327,600
British Columbia Electric Railway Company, Limited.....	762,400	102,424,000
Maritime Electric Company, Limited.....	542,673	1,866,867
International Electric Company.....	50,730	257,622
Fraser Companies, Limited.....	151,000	10,130,500
Total.....	1,535,851,752	5,380,922,877

*The difference between the amount produced for export and the quantity exported shown in appendix A is the line loss between the generating station and the point of export.

The increase in capital employed in the central electric station industry between 1922 and 1926 was 33 per cent, the revenue increased 43 per cent and the output increased 79 per cent. The dynamo capacity also increased by 72.5, or only slightly under the rate of increase of the output. The ratio of the output to the maximum capacity of the stations was 42.1 per cent in 1922; it rose to 47 per cent in 1923 and to 48.5 per cent in 1924 with some groups of stations

having a ratio as high as 58.4 per cent. The completion of new plants in 1925, creating a temporary surplus of capacity, reduced the ratio to 42.2 per cent in 1925 and with the market again gaining on the capacity it rose to 45.5 per cent in 1926.

The increase during the four years 1922-1926 in the primary power equipment of 66.9 per cent was almost entirely in water wheels and turbines, which increased by 1,497,096 horse-power. Steam reciprocating engines decreased in capacity by 4,098 horse-power, steam turbines increased by 14,302 horse-power and internal combustion engines by 3,625. The increase in the total capacity in 1925 of 25 per cent, which was exceptionally high, was not maintained in 1926, the increase in the capacity of all primary power equipment during the year being 5.5 per cent.

The capital of commercial stations showed an increase during the year of \$20,954,625 and of the municipal stations an increase of \$8,544,384. The output increased by 19.5 per cent in commercial stations and by 19.9 per cent in municipal stations, the relative output of the two classes of stations remaining practically the same as in the previous year.

Table 2 segregates the data of commercial and municipal and of generating and non-generating stations. When using these data to make comparisons between the different classes of stations, care should be taken to consider all factors or the results may be far from correct. The net revenue of the non-generating stations is the revenue received over and above the price paid to the generating stations for the power and is not the total amount received from their customers. The generating stations also interchanged some power, but with them the debits offset the credits so their net revenue represents the total receipts from consumers and non-generating distributing stations. The net revenues of commercial stations contain a certain amount of revenue received from both generating and non-generating municipal stations, but the amount is relatively small and the municipal stations' revenue contains practically no receipts from commercial stations.

The central electric industry in Canada is almost wholly hydro-electric; the output of hydro electric stations was almost 99 per cent of the total of all generating stations and their dynamo capacity (dynamos driven by water-wheels) was over 95 per cent of the total.

Although the output of the fuel plants was a very small portion of the total (1.4 per cent), the number of fuel power plants was considerable, aggregating 301. Over half, or 159, of these were small plants with capacities under 50 K.V.A., the average being only 19 K.V.A. Only 16 of the fuel stations had capacities above 1,000 K.V.A. but they produced over 80 per cent of the output of all fuel plants. Although the numerous stations with capacities of less than 1,000 K.V.A. were insignificant in comparison with the large fuel plants and the hydro-electric plants, they were important in as much as they gave service to approximately 57,000 customers in small towns and villages which would otherwise have been without the benefits of electric service. Table 3 shows the principal data of the power plants for which the data could be segregated, grouped according to their capacities. An interesting feature of the data of fuel plants is the decrease in the average revenue per kilowatt hour sold by these plants as the capacities increase and the relatively low ratios of output to maximum capacities. The obvious reason is that the small plants sell almost entirely to lighting customers requiring service for a comparatively short time each day. The consumption of coal shown in this table is of stations using coal only and was compiled solely to allow a computation of the average consumption per unit of output. The averages were comparatively high for all the plants and especially so for those with capacities under 1,000 K.V.A. Large modern plants generate electricity with a consumption as low as 1.5 to 2 pounds per kilowatt hour. Such low averages, however, are dependent on the quality of the coal and also are possible only where large quantities of water

for condensing purposes are available. Coal is used for power purposes in other industries in the manufacturing sections of Canada, but only to a very small extent in the central electric station industry. Over 80 per cent of the total K.V.A. capacity of fuel stations was in the Saskatchewan and Alberta plants whereas Ontario and Quebec fuel plants had only 3,943 K.V.A., or 3 per cent.

As stated above, the hydro-electric plants generated almost 99 per cent of the total output of all the plants. Of the 11,911,039,000 kilowatt hours generated by these stations, fourteen plants with capacities of 50,000 K.V.A. and up, for which data could be segregated, generated over 70 per cent of it. The ratio of their output to their maximum capacity was 51.4 per cent which was considerably higher than for any other group except six plants constituting the group with capacities between 5,000 and 10,000 K.V.A. which sold practically all their output to a few large customers. The average revenue per kilowatt hour sold for these plants with capacities over 50,000 K.V.A. was only .28 cent and on account of the magnitude of the quantity sold, materially affected the average for the total. These stations sold large blocks of 24-hour power to mines, pulp and paper mills, etc. and also sold to other companies and municipalities for distribution. Consequently this low rate of revenue was more representative of wholesale than retail service.

The group of plants with capacities of 5,000 K.V.A. to 10,000 K.V.A. as shown in table 3, also gave large wholesale service as evident from the small number of customers served by these six plants. In fact three of them had practically no lighting customers, but only a few large customers buying power for their own use and for distribution. The power purchased by groups was in some cases generated both by stations within the group and stations in other groups and consequently the average revenue per unit sold is a composite figure, including both wholesale and retail (power and lighting revenue) and the quantities sold include duplications.

There was considerable fluctuation in the average investment per K.V.A. of capacity, ranging from \$177 to \$431, with the largest plants having the lowest average. The absence of extensive distribution systems would reduce this average investment and was undoubtedly a factor in the low averages.

The capacities and outputs of hydro-electric stations in table 3 include those of the auxiliary equipment, but, as stated above, the auxiliary equipment is used very little and generated a very small part of the total of the hydro-electric output. The customers are only those of the generating stations and do not include those of the non-generating stations supplied by these hydro-electric stations.

The schedules ask for the peak load and the majority of the stations reported their peaks occurring in October, November, and December, with the load in December apparently being the heaviest. It was the line peak that was reported by the majority of the stations and as it would be affected by the power purchased, the ratio of peak to capacity would be raised. However, groups of hydro-electric stations purchasing relatively small amounts of power reported peaks of 76 per cent of their capacity whereas the ratios for the fuel stations were somewhat lower, the group of fuel stations with the largest capacities showing an average ratio of 62 per cent. These ratios have not been shown in the table because the data were not complete and without access to the individual reports they might be misinterpreted.

The increase in the number of customers has not been as great as in the production; the rapid increase in the pulp and paper industry and in the mining industry has been the big factor in the increased consumption and of course increased the number of customers comparatively little. The pulp and paper industry uses enormous quantities of power; much of it is produced by the mills themselves, but large blocks of power are purchased from central electric stations. A recent estimate by the Dominion Water Power and Reclamation

Service indicates that the horse-power purchased by the pulp and paper mills from central electric stations had increased over 160 per cent between 1922 and 1926. Most of the power used by this industry is 24-hour power and this increased power consumption represents approximately 25 per cent of the increased production of central electric stations during this period.

The bureau has no complete data on the consumption of electricity for lighting purposes on account of many stations not keeping such records, but a compilation from the annual report of the Ontario Hydro-Electric Power Commission shows that for the municipalities served by the commission, the consumption for domestic lighting increased between 1922 and 1926 by 140 per cent and for commercial lighting by 97 per cent. This increase was in both increased consumption per customer and in increased number of customers.

For domestic light the big increase in consumption was in the cities where it increased by 130 per cent, but the increase in the number of customers and in the average consumption per customer increased at a greater rate in the towns. The number of domestic light customers in all the municipalities served by the commission increased by 40 per cent and the average consumption per domestic light customer increased by 72 per cent.

In making this compilation the customers using 60-cycle power in Toronto who were served by the Toronto Power Company in 1922, were not included in 1926. It is quite possible that some of these increases were affected by customers transferring from other sources to the commission, but on the whole such would represent a small percentage of the total increase. While these data are only for the Ontario municipalities served by the commission, they give some indication of the increase in the lighting load in Canada.

The populations shown in table 4 are not the official census figures but the populations reported by the various stations and may be considered the population having electric service available. This population was approximately 59 per cent of the total estimated population of Canada for 1926 including both urban and rural. The 1921 census shows the urban population as 49.53 per cent of the total population. Using this ratio for 1926 makes the population with electric service available greater than the total urban population in Canada. The population census, however, classified as rural people living on the outskirts of towns and cities and all persons living in unincorporated districts and a few of these unincorporated districts were of considerable size. There are very few villages in Canada that do not have electric service.

The number of municipalities served with electric energy in 1926 was 1,530 and their populations amounted to 5,580,833. This was an increase of 130 municipalities and 122,280 in population over the 1925 figures.

British Columbia showed the remarkably high ratio of 85 per cent of the total population having electric service available. The concentration of people in towns and cities is a big factor in this as is also the supply of water-power. The 1921 population census shows British Columbia with 56 per cent of the population as urban, almost equal to the ratio of the much older province of Quebec, and only 2.3 per cent under Ontario.

Table 5—Capital.—Over 63 per cent of the increased capital invested during the year was in Quebec stations and practically all of this was in the hydro-electric plants. The average investment per horse-power was reduced from \$204 to \$201 and Quebec stations continued to have the lowest average with \$160 per horse-power. The investments for generation alone, which includes water-wheels, dams, storage basins, etc. and auxiliary equipment, averaged \$114 per horse-power, the highest averages being in the Maritime Provinces and the lowest in Manitoba. The average costs of transmission and distribution pole line mileage varied considerably due to the different types of construction.

Table 6—Revenue.—The revenue increased during the year by \$9,592,149, or 12 per cent, but the average revenue per kilowatt hour was lower by .04 cent.

or 5 per cent. A large factor in this is the increase in load of the pulp and paper industry and of mines. There was also an increase in the kilowatt hours exported, of over 234 million or almost 2 per cent of the total output of all plants. Practically all of this increase in exports was in surplus power of the Niagara plants which was probably sold at low rates, which would also tend to decrease the average revenue per unit of output.

Quebec stations showed by far the lowest rate, averaging only 0.53 cent per kilowatt hour, and the small plants, mostly fuel, in Prince Edward Island and Saskatchewan serving principally lighting customers had the highest averages. There is a considerable amount of power lost in transmission and in stepping the current up and down through transformers. Consequently a system with extensive transmission lines having heavy line losses would show a lower average revenue per unit of output than a small local system with no transmission lines and small lines losses, even if the rates to customers were the same and the nature of the services was approximately identical. This is due to the total output including all line, and transformer losses being included in the computations. The bureau is attempting to gather data on line losses in the 1927 census so that this factor can be measured, but in the absence of such data, this factor should be considered when making comparisons.

Table 7—Expenses.—The increase in the expenses included in table 7 of \$5,131,268 was made up of \$1,187,093 in wages, \$674,120 in taxes, and \$3,398,909 in cost of power. Fuel showed a decrease in cost of \$128,854. New Brunswick and Manitoba stations showed decreases in wages but the other stations showed increases, especially Quebec stations where the total wages were higher by \$508,565.

The cost of power which is the major item in these expenses is not an expense to the industry as a whole, but simply a transfer of monies for power between stations. The large increases were in Ontario, where the bulk of the power is generated by the provincial commission and sold to the municipalities for distribution, and in British Columbia, where large blocks of power are interchanged between affiliated companies. The increases do indicate a growth in the business of the non-generating stations.

Table 8—Employees.—There was little change in the number of employees during the year, the total being only 143 greater than in 1925. Quebec, New Brunswick, Manitoba and Yukon stations showed smaller numbers of employees and the other provinces showed increases.

Table 9—Customers.—The number of customers increased by 57,831, or 4.5 per cent during the year, increases being recorded in all the provinces, Ontario leading with 27,994 and Quebec second with 15,559. The averages at the foot of the table are based on the estimated populations of the provinces for 1926, including both urban and rural. The high average for British Columbia of 17.15 domestic light customers per 100 population is partly due to the relatively large urban population and the supply of water-power.

Table 10—Pole Line Mileage.—The total pole line mileage increased during the year by 2,042 miles, transmission lines increasing by 854 miles, or 8.7 per cent, and distribution lines by 1,188 miles, or 6.7 per cent. The largest increases were in Ontario where 241 miles of transmission lines and 498 miles of distribution lines, or a total of 739 miles, were added, and in Quebec where the addition to transmission lines amounted to 520 miles and to distribution lines 210 miles, or a total of 730 miles.

Tables 11, 12, 13, 14—Equipment.—Of the increase of 199,796 horse-power in main plant primary power equipment, Quebec stations accounted for 108,204 horse-power, or 54 per cent, Manitoba stations for 60,452 horse-power, or 30 per cent, and British Columbia stations for 19,824 horse-power, or 10 per cent. Over 96 per cent of the increase was in hydro-electric stations and 90 per cent was in commercial stations. Water-wheels and turbines with capacities over

15,000 horse-power increased in number by four and in total capacity by 138,000 horse-power. The other wheels to show a large increase were those with capacities between 5,000 horse-power and 10,000 horse-power. Seven of these were added with a total capacity of 43,000 horse-power.

Table 15—Electric Energy Generated.—Generating stations showed an increased output of 1,982,056,000 kilowatt hours, or 19.6 per cent. Quebec stations accounted for 871,936,000 kilowatt hours of this increase and Ontario stations for 800,991,000 kilowatt hours of it. The total output of Ontario and Quebec stations was almost 85 per cent of all stations in Canada, British Columbia and Manitoba with their large hydro-electric plants being the other chief producers. The hydro-electric stations increased their ratios of output to maximum capacity, Ontario stations leading with 49.6 per cent and Quebec stations second with 47.5 per cent. Fuel stations, as was to be expected, had low ratios, ranging from 4.1 per cent to 21.6 per cent. Ratios of individual plants and of groups within the provincial classes were both higher and lower than these. These ratios are computed by multiplying the total capacities by 8,760 hours, except that equipment installed during the year is charged only for the time from date of installation, and dividing the product into the output for each class of station. The capacities include those of the auxiliary equipment and since the auxiliary equipment is operated so very little, this method possibly penalizes the hydro-electric equipment to a small extent. These ratios do not take any cognizance of daily and yearly peak loads which, of course, must be provided for with capacity not needed during the remainder of the day and year.

Table 16—Fuel.—The decrease in fuel and cost of fuel of \$128,854, or 6 per cent, was largely in Manitoba and British Columbia stations. The fuel consumed by the auxiliary equipment of hydro-electric stations cost only \$374,491 or 17 per cent of the total, and fuel of non-generating stations cost \$26,602 excluding the cost of steam used in the Windsor, Ontario station.

Table 1—Comparative Summary, 1926-1922—Tableau 1—Résumé comparatif, 1926-1922

Principal Data by Class of Station Données principales par classes d'usines		1926	1925	1924	1923	1922	Per cent increase 1926 over 1922 Pourcentage d'augmen- tation de 1926 sur 1922
Electric Power Plants— Usines électriques—							
Total	Total	595	563	532	532	522	13.9
Hydraulic.....	Hydrauliques.....	294	284	273	269	269	9.3
Fuel.....	A combustible.....	301	279	259	263	253	19.0
Commercial.....	Commerciales.....	393	365	333	335	326	20.6
Municipal.....	Municipales.....	202	198	199	197	196	3.1
Capital— Capitaux—							
Total	Total	756,220,066	726,721,087	628,565,093	581,780,611	568,068,752	33.1
Commercial.....	Commerciales.....	430,817,426	409,862,801	326,554,580	307,046,240	326,448,922	32.0
Municipal.....	Municipales.....	325,402,640	316,858,286	302,010,513	274,734,371	241,619,830	34.7
Generating.....	Productrices.....	647,850,154	625,970,883	532,016,164	489,085,939	484,635,750	33.7
Non generating.....	Non productrices.....	108,369,912	100,750,204	96,548,929	92,694,672	83,433,002	29.9
Revenue— Recettes—							
Total	Total	88,933,733	79,341,584	74,616,863	67,496,893	62,173,179	43.0
Commercial.....	Commerciales.....	47,911,555	42,195,543	39,033,665	37,040,835	37,894,341	26.4
Municipal.....	Municipales.....	41,022,178	37,146,041	35,583,198	30,456,058	24,278,838	68.9
Generating.....	Productrices.....	72,123,290	63,547,553	59,861,915	52,681,003	48,102,723	49.9
Non generating.....	Non productrices.....	16,810,443	15,794,031	14,754,948	14,815,890	14,270,456	17.8
Expenses— Dépenses—							
Total	Total	52,766,799	47,635,531	40,887,779	41,067,329	37,327,493	41.4
Commercial.....	Commerciales.....	24,622,619	21,325,649	18,777,557	15,319,394	14,704,651	67.4
Municipal.....	Municipales.....	28,144,180	26,309,882	24,110,222	25,747,935	22,622,842	24.4
Generating.....	Productrices.....	27,655,269	24,857,279	20,198,257	20,992,105	19,304,835	43.3
Non generating.....	Non productrices.....	25,111,530	22,778,252	20,689,522	20,075,225	18,022,658	30.3
Per Line Mileage— Lignes sur poteaux—							
Total	Total	29,695	27,653	26,654	23,560	22,669	31.0
Commercial.....	Commerciales.....	14,257	13,047	12,102	11,146	11,123	28.2
Municipal.....	Municipales.....	15,438	14,606	14,552	12,414	11,546	33.7
Generating.....	Productrices.....	20,005	18,372	17,340	14,405	13,927	43.6
Non generating.....	Non productrices.....	9,690	9,281	9,314	9,155	8,742	10.8
Customers— Abonnés—							
Total	Total	1,337,562	1,279,731	1,200,950	1,112,547	1,053,547	27.0
Domestic light.....	Eclairage domes- tique.....	1,110,637	1,063,530	989,510	920,223	889,346	24.9
Commercial light.....	Eclairage com- mercial.....	188,553	180,994	176,444	159,929	164,199	38.2
Power.....	Force motrice.....	38,372	35,207	34,996	32,395	—	—
Commercial sta- tions.....	Commerciales.....	584,760	559,172	521,064	496,591	476,285	22.8
Municipal stations.....	Municipales.....	752,802	720,559	679,886	615,956	577,260	30.4
Generating.....	Productrices.....	680,717	653,032	610,206	547,928	533,923	27.5
Non generating.....	Non productrices.....	65,6,845	626,699	590,744	564,619	519,622	26.4
Electric Energy Gen-Energie Electrique erated—produite—							
Total kilowatt hours (thousands)	K.W. heures pro- duites (milles)	12,093,445	10,110,459	9,315,277	8,099,192	6,740,750	79.4
Commercial.....	Commerciales.....	7,797,480	6,527,103	6,024,312	5,074,120	5,119,676	52.3
Municipal.....	Municipales.....	4,295,965	3,583,356	3,290,965	3,025,072	1,621,074	165.0
Equipment in generating stations (main plant only).							
Machineerie dans les usines productrices (Machines des usines principales)							
Total primary power	H.P.	3,769,323	3,569,527	2,849,450	2,423,845	2,258,398	66.9
Total force motrice primaire							
Water wheels and turbines.....	No.....	730	710	667	641	629	16.0
Turbines et roues hydrauliques.....	H.P.....	3,609,385	3,416,018	2,707,957	2,282,547	2,112,289	70.9
Steam reciprocating engines.....	No.....	151	147	147	159	175	—13.7
Machines à vapeur.....	H.P.....	36,386	34,230	33,876	37,116	40,484	—10.1
Steam turbines.....	No.....	47	43	40	38	41	14.6
Turbines à vapeur.....	H.P.....	103,847	101,457	90,617	87,767	89,545	16.0
Internal combustion engines.....	No.....	341	306	271	262	225	51.6
Moteurs à gaz et à pétrole.....	H.P.....	19,705	17,822	17,000	16,415	16,080	22.5
Total in commercial stations.....	H.P.....	2,423,244	2,243,318	1,701,393	1,451,498	1,565,229	54.8
Total dans les usines commerciales.....							
Total in municipal stations.....	H.P.....	1,346,079	1,326,209	1,147,657	972,347	693,169	94.1
Total dans les usines municipales.....							
Total secondary power	K.V.A	2,995,387	2,844,709	2,282,046	1,862,195	1,736,199	72.5
Total force motrice secondaire							
Dynamos, A.C.....	No.....	977	935	881	863	857	14.0
Dynamos, C.A.....	K.V.A.....	2,985,935	2,835,742	2,273,461	1,852,746	1,725,831	73.0
Dynamos, D.C.....	No.....	249	231	206	208	181	37.6
Dynamos, C.D.....	K.W.....	9,452	8,967	8,585	9,449	10,368	— 8.8
Total in commercial stations.....	K.V.A.....	1,938,048	1,803,545	1,400,871	1,140,945	1,210,947	60.0
Total dans les usines commerciales.....							
Total in municipal stations.....	K.V.A.....	1,057,339	1,041,164	880,575	720,900	525,252	101.3
Total dans les usines municipales.....							

*Includes estimates for stations not reporting output

*Comprend l'estimation des stations qui ne font pas connaître leur production.

CENSUS OF INDUSTRY

Table 2—Summary of Principal Data, 1926-1925

	Total		Commercial — Commerciales		Municipal — Municipales	
	1926	1925	1926	1925	1926	1925
	1	2	3	4	5	6
Total Number of Electric Power Plants...	595	563	393	365	202	193
No. of hydraulic plants.....	294	284	211	204	83	80
No. of fuel plants.....	301	279	182	161	119	118
Total Capital.....	756,229,066	726,721,087	430,317,426	409,862,801	325,492,649	316,858,286
Lands, buildings, equipment, etc.....	700,479,113	676,677,989	399,515,196	382,227,013	300,963,917	294,450,976
Materials on hand, cash trading accounts, etc.....	55,740,953	50,043,098	31,302,230	27,635,788	24,438,723	22,407,310
Total Net Revenue from Sale of Electric Energy.....	88,933,733	79,341,584	47,911,555	42,195,543	41,022,178	37,146,041
For lighting purposes.....	42,045,674	38,829,161	—	—	—	—
For all other purposes.....	46,888,059	40,512,423	—	—	—	—
Expenses.....	52,766,799	47,635,531	24,622,619	21,325,649	28,144,180	26,309,882
Salaries and wages.....	19,943,000	18,755,907	8,596,178	7,827,114	11,346,822	10,928,793
Fuel.....	2,137,382	2,266,236	916,350	1,023,593	1,221,032	1,242,643
Cost of power.....	26,645,207	23,246,298	11,432,314	9,381,084	15,212,893	13,865,214
Taxes.....	4,041,210	3,367,090	3,677,777	3,093,858	363,433	273,232
Total Number of Employees.....	13,406	13,263	6,178	5,141	7,228	7,122
Total Mileage of Pole Lines.....	29,695	27,633	14,257	13,047	15,438	14,606
For transmission.....	10,645	9,791	5,918	5,221	4,727	4,570
For distribution.....	19,050	17,862	8,339	7,826	10,711	10,036
Total Number of Customers.....	1,337,562	1,297,731	584,760	559,172	752,802	720,559
Domestic light.....	1,110,637	1,063,530	476,806	458,324	633,831	605,206
Commercial light.....	188,553	180,994	88,831	84,052	99,722	96,942
Power.....	38,372	35,207	19,123	16,796	19,249	18,411
Total K.W. Hours Generated (Thou- sands).....	12,093,415	10,110,459	7,797,480	6,527,103	4,295,965	3,583,356
Total Power (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1926	1925	1926	1925	1926	1925
	1	2	3	4	5	6
Total Primary Power.....H.P.	3,769,323	3,569,527	2,423,244	2,243,318	1,346,079	1,326,209
Water wheels and turbines.....No.	730	710	531	512	199	198
H.P.	3,609,385	3,416,018	2,388,551	2,212,813	1,220,834	1,203,205
Steam reciprocating engines.....No.	151	147	76	73	75	74
H.P.	36,386	34,230	16,208	14,552	20,178	19,678
Steam turbines.....No.	47	43	15	13	32	30
H.P.	103,847	101,457	12,224	10,384	91,623	91,073
Gas and oil engine.....No.	341	306	215	187	126	119
H.P.	19,705	17,822	6,261	5,569	13,444	12,253
Total Secondary Power.....K.V.A.	2,995,387	2,844,709	1,938,048	1,803,545	1,057,339	1,041,164
Dynamos, A.C.....No.	977	935	594	561	383	374
K.V.A.	2,985,935	2,835,742	1,932,005	1,797,856	1,053,930	1,037,886
Dynamos, D.C.....No.	249	231	206	188	43	43
K.W.	9,452	8,967	6,043	5,689	3,409	3,278

Tableau 2—Résumé comparatif des données principales, 1926-1925

Generating — Production				Non-Generating — Non-productrices				Per Cent of Column 1 — Pour cent de la 1ère col.				
1926		1925		1926		1925		Com- mer- ciales 1926	Mu- ni- cipales 1926	Gene- rating Prod. 1926	Non Gen. — Non- prod. 1926	
7	8	9	10					11	12	13	14	
595	563	—	—	66-05	33-95	100-00	—					Nombre d'usines génératrices. Nombre d'usines hydrauliques. Nombre d'usines à combustible.
294	284	—	—	71-77	28-23	100-00	—					
301	279	—	—	60-47	39-53	100-00	—					
647,850,154	625,970,883	108,369,912	100,750,204	56-97	43-03	85-67	14-33					Total des capitaux.
611,548,433	593,038,878	88,930,680	83,639,111	57-03	42-97	87-30	12-70					Terrains, bâtiments, aménagements, etc.
36,301,721	32,932,005	19,439,232	17,111,093	56-16	43-84	65-13	34-87					Matières premières en stock, fonds en caisse, créances à recouvrer, etc.
72,123,290	63,547,553	16,810,443	15,794,031	53-87	46-13	81-10	18-90					Total des recettes nettes par l'électri- cité vendue.
—	—	—	—	—	—	—	—					Pour éclairage.
—	—	—	—	—	—	—	—					Pour tous autres usages.
27,655,269	24,857,279	25,111,530	22,778,252	46-66	53-34	52-41	47-59					Dépenses.
13,429,385	12,716,941	6,512,715	6,038,966	43-10	56-90	67-34	32-66					Traitements, appoint. et salaires.
2,110,780	2,231,770	26,602	34,466	42-87	57-13	98-76	1-24					Combustible.
8,564,504	6,730,735	18,080,703	16,515,563	42-91	57-09	32-14	67-86					Achat de force motrice électrique.
3,550,600	3,177,833	490,610	189,257	42-91	57-09	32-14	67-86					Impôts.
8,767	8,857	4,639	4,406	46-08	53-92	65-49	34-60					Nombre total du personnel.
20,005	18,372	9,690	9,281	48-01	51-99	67-37	32-63					Long. en milles des lignes sur poteaux.
9,738	8,870	907	921	55-59	44-41	91-48	8-52					De transmission.
10,267	9,502	8,783	8,360	43-77	56-23	53-90	46-10					De distribution.
680,717	653,032	655,845	626,699	43-72	56-28	50-89	49-11					Nombre total des abonnés des usines.
565,452	546,213	545,185	517,317	42-93	57-07	50-91	49-09					Eclairage, commerçants.
94,990	88,749	93,563	92,245	47-11	52-89	50-38	49-62					Eclairage, particuliers.
20,275	18,070	18,097	17,137	49-84	50-16	52-84	47-16					Force motrice.
12,084,639	10,102,583	8,806	7,876	64-48	35-52	99-93	0-07					Total des kilowatt-heures produits (milliers).

Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)								Total Power Equipment in Auxiliary Plants		
Per Cent of Cols. 1 & 2 Pourcent des col. 1 et 2				Per Cent of Totals of Columns 3, 4, 5 & 6 Pourcent des col. 3, 4, 5 et 6				Machines des usines auxiliaires		
Commercial		Municipal		Commercial		Municipal				
1926	1925	1926	1925	1926	1925	1926	1925	1926	1925	
64-29	62-9	35-71	37-1	100-0	100-0	100-0	100-0	176,865	173,170	Total force motrice primaire, H.P.
72-74	72-1	27-26	27-9	—	—	—	—	—	—	Turbines et roues hydrauliques nomb.
66-18	64-8	33-82	35-2	98-5	98-6	90-7	90-7	—	—	H. P.
50-33	49-7	49-67	50-3	—	—	—	—	48	54	Machines à vapeur..... nomb.
44-54	42-5	55-46	57-5	00-7	00-6	1-5	1-5	22,529	23,380	H. P.
31-91	30-2	68-09	69-8	—	—	—	—	33	37	Turbines à vapeur nomb.
11-77	10-2	88-23	89-8	00-5	00-5	6-8	6-9	151,615	147,415	H. P.
63-0	61-1	37-0	38-9	—	—	—	—	16	14	Moteurs à gaz et à pétrole nomb.
31-8	31-3	68-2	68-7	00-3	00-3	1-0	0-9	2,721	2,366	H. P.
64-7	63-3	35-3	36-7	100-0	100-0	100-0	100-0	145,828	142,421	Total force motrice secondaire, K.V.A.
60-8	60-0	39-2	40-6	—	—	—	—	86	90	Dynamos, C.A..... nomb.
64-7	63-4	35-3	36-6	99-7	99-7	99-7	99-7	143,503	140,146	K.V.A.
82-7	81-4	17-3	18-6	—	—	—	—	6	6	Dynamos, C.D..... nomb.
63-9	63-4	36-1	36-6	0-3	0-3	0-3	0-3	2,325	2,275	K.W.

CENSUS OF INDUSTRY

Table 3—Groups of Power Plants by K.V.A. Capacities

	Unit	Under 50 K.V.A.	50 K.V.A. and under 100 K.V.A.	100 K.V.A. and under 500 K.V.A.	500 K.V.A. and under 1,000 K.V.A.
HYDRAULIC					
Number of Power Plants.....	No.	23	37	75	16
Total Capacity.....	K.V.A.	706	2,700	19,693	10,536
Capital.....	\$	303,970	695,119	5,917,682	3,298,253
Gross Revenue.....	\$	40,278	121,797	1,158,059	489,032
Output of plants.....	K.W.Hr.	615,779	2,221,207	37,678,722	18,150,160
Power purchased.....	"	—	—	7,659,620	3,609,000
Total Energy Sold.....	"	615,779	2,221,207	45,338,342	21,759,160
Customers—					
Commercial light.....	No.	310	732	4,509	1,111
Domestic light.....	"	1,268	3,815	26,704	7,978
Power.....	"	7	30	759	198
Total.....		1,585	4,577	31,972	9,287
Averages—					
Capacity per plant.....	K.V.A.	31	73	255	659
Capital per plant.....	\$	13,216	18,787	78,902	206,141
Gross Revenue per plant.....	\$	1,751	3,292	15,441	30,565
Output per plant.....	K.W.Hr.	26,773	60,035	50,238	1,134,385
Customers per plant, com. light.....	No.	13	20	60	69
domestic light.....	"	55	103	356	498
power.....	"	3	8	10	12
Gross Revenue per K.w.hr. sold.....	c.	7	5.5	2.6	2.2
Capital per K.V.A.....	\$	431	257	310	313
Ratio of output to max. capacity.....	%	10	9.4	22.5	19.7
" capacity to total of water power plants.....	"	.02	.10	.74	.41
" capacity to total of all power plants.....	"	.02	.09	.61	.34
" output to total of water power plants.....	"	.01	.02	.36	.17
" output to total of all power plants.....	"	.01	.02	.31	.15
FUEL					
Number of Power Plants.....	No.	158	46	64	14
Total capacity.....	K.V.A.	3,067	3,191	13,717	9,574
Capital.....	\$	1,211,758	1,095,827	3,185,466	2,404,764
Gross Revenue.....	\$	507,445	418,400	1,236,204	767,491
Output of plants using coal only.....	K.w.hr.	473,253	1,290,496	7,532,109	6,059,551
" other plants.....	"	2,013,655	2,136,702	6,310,501	4,709,041
Total output.....	"	2,486,908	3,427,198	13,842,610	10,768,592
Power purchased.....	"	—	347,595	—	5,008,432
Total Energy Sold.....	"	2,486,908	3,774,793	13,842,610	15,777,024
Customers—					
Commercial light.....	No.	3,115	1,595	4,100	2,078
Domestic light.....	"	6,839	6,561	18,036	13,117
Power.....	"	14	106	627	567
Total.....	"	9,968	8,262	22,763	15,762
Coal used (by plants using coal only).....	Tons	2,640	13,082	36,958	37,053
Averages—					
Capacity per plant.....	K.V.A.	19	69	215	684
Capital per plant.....	\$	7,669	23,822	49,773	171,769
Gross Revenue per plant.....	\$	3,212	9,096	19,316	54,821
Output per plant.....	K.w.hrs.	15,739	74,504	216,290	769,185
Customers per plant, com. light.....	"	20	35	64	148
domestic light.....	"	43	143	282	937
power.....	"	9	2	10	41
Gross revenue per K.w.hr. sold.....	c.	20	11	9	5
Capital per K.V.A.....	\$	403	343	232	251
Pounds of coal per K.w.hr.....	lbs.	11	16.2	9.8	12.2
Ratio of output to max. capacity.....	%	9.5	12.3	11.5	12.8
" capacity to total of fuel plants.....	%	2.36	2.50	10.75	7.50
" capacity to total of all plants.....	%	.10	.10	.44	.31
" output to total fuel plants.....	%	1.47	2.04	8.22	6.40
" output to total all plants.....	%	.02	.03	.11	.09

This tables includes only stations for which data could be segregated—Les chiffres de ce tableau se limitent aux usines dont on possède les données exactes.

Tableau 3—Usines électriques groupées selon leur capacité en K.V.A.

1,000 K.V.A. and under 5,000 K.V.A.	5,000 K.V.A. and under 10,000 K.V.A.	10,000 K.V.A. and under 50,000 K.V.A.	50,000 K.V.A. and over	Total	
					HYDRAULIQUES
50	6	19	14	240	Nombre d'usines.
145,978	36,875	382,265	1,978,352	2,576,505	Capacité totale.
44,475,745	8,385,214	76,267,092	349,397,557	488,740,632	Capital.
7,217,875	1,001,372	7,824,439	36,376,381	54,229,233	Recettes brutes.
415,148,293	219,448,325	1,243,965,849	8,489,511,407	10,426,739,742	Production des usines.
193,181,471	1,688,980	358,328,192	1,866,021,083	2,430,488,346	Force motrice achetée.
608,329,764	220,137,305	1,602,294,041	10,356,532,490	12,857,228,088	Total de l'énergie vendue.
					Clientèle—
17,196	61	3,983	7,290	35,192	Eclairage commercial.
100,729	2,874	18,467	79,102	240,937	Eclairage domestique.
4,455	25	1,613	1,516	8,603	Force motrice.
122,380	2,960	24,063	87,908	284,732	Total.
					Moyennes—
2,920	6,146	20,119	141,311	10,735	Capacité par usine.
889,515	1,397,536	4,014,057	24,956,968	2,036,443	Capital par usine.
144,558	166,895	411,813	2,598,313	225,955	Recettes brutes par usine.
12,166,544	36,574,721	65,471,886	606,393,664	43,444,748	Production par usine.
344	10	210	531	163	Clientèle par usine, écl. comm.
2,015	479	972	5,650	104	écl. domest.
89	4	85	108	36	force motrice.
1-2	45	48	28	42	Recettes brutes par kil.-heure vendu.
305	227	200	177	190	Capital par K.V.A.
32-5	67-9	37-1	51-4	47-7	Prop. de la prod. à la cap. potentielle.
5-67	1-43	14-84	76-79	100-00	“ cap. au total des usines hydr.
4-68	1-18	12-25	63-39	82-56	“ cap. au total de toutes les usines.
3-98	2-11	11-93	81-42	100-00	“ prod. au total des usines hydr.
3-44	1-82	10-29	70-25	86-28	“ prod. au total de toutes les usines.
					À COMBUSTIBLE
10	5	—	—	297	Nombre d'usines.
26,089	72,025	—	—	127,603	Capacité totale.
6,974,567	11,156,025	—	—	26,028,407	Capital.
1,567,387	3,633,370	—	—	8,130,297	Recettes brutes.
24,931,627	71,239,080	—	—	111,526,116	Prod. des usines à charbon.
13,959,978	27,648,328	—	—	56,778,205	“ autres usines.
38,891,605	98,887,408	—	—	168,304,321	Production totale.
10,918,500	54,908,310	—	—	71,182,837	Force motrice achetée.
49,810,105	153,795,718	—	—	239,487,158	Total de l'énergie vendue.
					Clientèle—
4,894	8,369	—	—	24,151	Eclairage commercial.
19,906	50,998	—	—	115,457	Eclairage domestique.
1,241	2,252	—	—	4,807	Force motrice.
26,041	61,619	—	—	144,415	Total.
73,586	148,740	—	—	312,059	Charbon consommé (usines à charbon seult).
					Moyennes—
2,609	14,405	—	—	430	Capacité par usine.
697,457	2,231,205	—	—	87,638	Capital par usine.
156,795	726,674	—	—	27,375	Recettes brutes par usine.
3,889,161	19,777,482	—	—	566,681	Production par usine.
189	1,674	—	—	81	Clientèle par usine, écl. comm.
1,991	10,200	—	—	389	“ écl. domest.
124	450	—	—	16	“ force motrice.
3	2-36	—	—	3-39	Recettes brutes par kil.-heure vendu.
267	155	—	—	204	Capital par K.V.A.
5-9	4-2	—	—	5-6	Livres de charbon par kil.-heure.
17-01	15-67	—	—	15-1	Prop. de la prod. à la cap. potentielle.
20-45	56-44	—	—	100-00	“ cap. au total des usines à charbon.
84	2-31	—	—	4-09	“ cap. au total de toutes les usines.
23-11	58-76	—	—	100-00	“ prod. au total des usines à charbon.
32	82	—	—	1-39	“ prod. au total de toutes les usines.

CENSUS OF INDUSTRY

Table 4—Electric Power Plants—Municipalities served, 1926

	Canada	Prince Edward Is. — He du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Power Generating Stations.....	595	10	42	23	109	120
Per cent of total for Canada.....	100.00	1.68	7.06	3.86	18.32	20.17
Commercial.....	393	8	21	16	92	73
Hydraulic.....	211	7	11	6	89	70
Fuel.....	182	1	10	10	3	3
Municipal.....	202	2	21	7	17	47
Hydraulic.....	83	—	15	3	13	41
Fuel.....	119	2	6	4	4	6
With water wheels and turbines only.....	260	5	23	9	96	100
With water wheels, turbines and fuel auxiliary	34	2	3	—	6	11
With steam engines only.....	74	—	8	6	2	5
With steam turbines only.....	9	—	3	1	1	—
With gas or oil engines only.....	196	2	2	4	3	4
With both steam engines and turbines.....	13	—	2	1	1	—
With both steam and gas or oil engines.....	7	—	1	2	—	—
With both steam turbines and gas or oil engines.....	1	—	—	—	—	—
With steam engines, turbines and gas or oil..	1	1	—	—	—	—
With alternating current dynamos only.....	425	9	39	15	103	108
With direct current dynamos only.....	161	1	2	5	4	11
With both alternating and direct current dynamos.....	9	—	1	3	2	1
Commercial Organizations.....	452	8	38	28	102	77
Number generating power.....	354	7	20	16	69	62
Number buying power for redistribution	98	1	18	12	33	15
Municipalities.....	532	2	28	15	41	311
Number generating power.....	170	2	17	7	14	23
Number buying power for redistribution	362	—	11	8	27	288
Cities, Towns and Villages served—						
No.....	1,530	17	122	67	446	475
Population..	5,580,833	22,847	266,476	162,858	1,876,561	1,999,832
Ratio of total population (per cent)...	59.00	26.00	49.00	40.00	73.00	61.00
By commercial organizations—						
No.....	894	15	73	45	395	118
Population..	2,637,057	18,575	168,767	80,358	1,667,846	172,296
By municipal systems—						
No.....	612	2	49	21	47	347
Population..	2,134,779	4,272	97,709	32,500	142,789	1,470,465
By both—						
No.....	24	—	—	1	4	10
Population..	808,997	—	—	50,000	65,926	357,071
By hydraulic stations—						
No.....	1,174	14	91	41	436	461
Population..	4,784,104	5,375	146,906	71,885	1,788,567	1,985,130
By fuel stations—						
No.....	353	3	31	25	9	14
Population..	656,729	17,472	119,570	40,973	67,994	14,702
By both hydro and fuel—						
No.....	3	—	—	1	1	—
Population..	140,000	—	—	50,000	20,000	—

Tableau 4—Usines génératrices—Municipalités desservies, 1926

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
26 4.37	139 23.36	79 13.28	45 7.56	2 0.34	Nombre d'usines génératrices. Pourcentage dans chaque province.
12 3 9	89 — 89	49 4 45	31 20 11	2 1 1	Usines commerciales. Hydrauliques. À combustible.
14 2 12	50 — 50	30 1 29	14 8 6	— — —	Usines municipales. Hydrauliques. À combustible.
1 4	— —	4 1	21 7	1 —	Avec roues et turbines hydrauliques seulement. Avec roues et turbines hydrauliques plus usines auxiliaires.
10 — 11 — —	9 3 123 4 —	27 — 38 4 4	6 1 9 1 —	1 — — — —	Avec machines à vapeur seulement. Avec turbines à vapeur seulement. Avec moteurs à gaz ou à pétrole seulement. Avec machines et turbines à vapeur à la fois. Avec machines à vapeur, à gaz et à pétrole.
—	—	1	—	—	Avec turbines à vapeur et moteurs à gaz et à pétrole.
—	—	—	—	—	—
16 10	51 88	45 32	38 7	1 1	Avec dynamos à courant alternatif seulement. Avec dynamos à courant direct seulement.
—	—	2	—	—	Avec dynamos à courant alternatif et direct.
16 12 4	99 89 1	54 48 6	36 29 7	3 2 1	Usines commerciales. Nombre d'usines génératrices. Nombre d'usines achetant de l'électricité pour la revendre.
20 13 7	53 50 3	36 30 6	26 14 12	— — —	Municipalités. Nombre d'usines génératrices. Nombre d'usines achetant de l'électricité pour la revendre.
61 338,606 53.00	145 200,064 24.00	95 233,022 38.00	100 479,567 85.00	2 1,000 29.00	Cités, villes et villages desservis— Nombre. Population. Pour cent de la population totale.
26 49,583	92 44,338	61 40,819	67 393,475	2 1,000	Par des usines commerciales— Nombre. Population.
28 41,023	53 155,726	33 122,203	32 68,092	— —	Par des usines municipales— Nombre. Population.
7 248,000	— —	1 70,000	1 18,000	— —	Par usines commerciales et municipales— Nombre. Population.
36 313,889	— —	17 13,972	77 457,780	1 600	Par usines hydrauliques— Nombre. Population.
25 24,717	145 200,064	77 149,050	23 21,787	1 400	Par usines à combustible— Nombre. Population.
— —	— —	1 70,000	— —	— —	Par usines hydrauliques et à combustible— Nombre. Population.

Table 5—Capital, 1926

	Canada	Prince Edward Is. — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Capital	\$756,220,066	648,572	12,382,884	10,326,920	243,968,299	359,452,904
Per cent of total for Canada.....	100-00	.09	1-64	1-37	32-26	47-53
Generation.....	449,099,255	407,123	6,696,507	5,820,893	169,102,818	199,055,973
Transmission.....	110,482,108	—	2,154,081	1,306,876	29,365,095	63,688,232
Distribution.....	140,897,750	218,411	2,718,328	2,523,632	31,100,657	71,858,216
General.....	55,740,953	23,038	813,968	675,519	14,399,729	24,850,483
Total Capital in Commercial Stations	439,817,426	549,846	6,086,156	5,074,449	237,328,943	91,190,219
Generation.....	285,965,763	348,269	2,287,823	3,188,590	165,809,354	64,725,137
Transmission.....	53,067,855	—	1,377,804	250,869	29,169,261	11,246,539
Distribution.....	60,481,578	190,138	1,849,870	1,217,412	28,239,215	10,890,109
General.....	31,302,230	11,439	570,659	417,569	14,111,113	4,319,434
Non-generating stations.....	30,113,572	6,800	2,904,179	718,641	8,978,395	2,991,410
Generating stations.....	400,703,854	543,046	3,181,977	4,355,799	228,350,548	88,198,809
Hydraulic stations.....	393,520,974	79,200	1,722,450	1,737,563	228,281,232	88,185,157
Fuel stations.....	7,182,880	463,846	1,459,527	2,618,236	69,316	13,652
Total Capital in Municipal Stations	325,402,649	98,726	6,296,728	5,252,480	6,639,356	268,262,685
Generation.....	163,133,492	58,854	4,408,684	2,632,303	3,293,464	134,330,836
Transmission.....	57,414,253	—	776,277	1,056,007	195,834	52,441,693
Distribution.....	80,416,172	28,273	868,458	1,306,220	2,861,442	60,959,107
General.....	24,438,723	11,599	243,309	257,950	288,616	20,531,049
Non-generating stations.....	78,256,340	—	725,195	1,164,832	1,214,680	73,004,440
Generating stations.....	247,146,300	98,726	5,571,533	4,087,648	5,424,676	195,258,245
Hydraulic stations.....	227,529,779	—	4,975,215	3,918,596	3,969,911	195,060,326
Fuel stations.....	19,616,521	98,726	596,318	169,052	1,454,765	197,919
Total Capital in Non-generating Stations	108,369,912	6,800	3,629,374	1,883,473	10,193,075	75,995,850
Generation.....	3,610,027	—	587,168	209,853	2,553,582	—
Transmission.....	6,283,890	—	1,021,534	170,875	1,227,416	2,118,667
Distribution.....	79,036,763	6,000	1,592,115	1,266,702	5,031,114	59,712,490
General.....	19,439,232	800	428,557	236,043	1,380,963	14,164,693
Total Capital in Generating Stations	647,850,154	641,772	8,753,510	8,443,447	233,775,224	283,457,054
Generation.....	445,489,228	407,123	6,109,339	5,611,040	166,549,236	199,055,973
Transmission.....	104,198,218	—	1,132,547	1,136,001	28,137,679	61,569,565
Distribution.....	61,860,987	212,411	1,126,213	1,256,930	26,069,543	12,145,726
General.....	36,301,721	22,238	385,411	439,476	13,018,766	10,685,790
Hydraulic Stations.....	621,050,753	79,200	6,697,665	5,656,159	232,251,143	283,245,483
Generation.....	430,218,784	52,800	5,060,050	3,838,206	166,006,673	198,951,085
Transmission.....	103,851,737	—	1,005,176	1,136,001	28,137,679	61,569,065
Distribution.....	52,256,512	24,800	485,403	496,090	25,185,100	12,052,450
General.....	34,723,720	1,600	147,036	185,862	12,921,691	10,672,883
Fuel Stations.....	26,799,401	562,572	2,055,845	2,787,288	1,524,081	211,571
Generation.....	15,270,444	354,323	1,049,289	1,772,834	542,563	104,888
Transmission.....	346,481	—	127,371	—	—	500
Distribution.....	9,604,475	187,611	640,810	760,840	884,443	93,276
General.....	1,578,001	20,638	238,375	253,614	97,075	12,907
TOTAL CAPITAL						
Average per H.P. of Primary Power.....	201	215	299	287	160	246
Average per H.P. including Auxiliary equipment.....	192	210	239	267	157	235
Average per K.V.A. of Dynamo Capacity..	252	245	365	371	202	306
Average per K.V.A. including Auxiliary equipment.....	241	245	285	359	198	292
Generation						
Average cost per H.P. (including aux. equip.).....	114	132	146	156	108	134
In all generating stations.....	114	153	159	147	108	131
In Hydraulic stations.....	95	129	105	180	138	76
In Fuel stations.....						
Transmission Lines						
Average per pole line mile.....	10,379	—	9,660	5,186	9,537	12,537
Distribution Lines						
Average per pole line mile.....	7,107	2,275	2,724	3,374	8,454	8,689

Tableau 5—Capitaux, 1926

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	
38,501,673 5-09	9,136,774 1-21	15,456,460 2-04	64,989,229 8-59	1,356,351 -18	Total des capitaux. Pourcentage dans chaque province.
20,758,591	5,615,855	9,123,376	31,442,911	1,075,208	Génération.
3,921,707	—	1,774,116	8,111,338	160,663	Transmission.
10,934,802	3,055,032	3,824,361	14,638,753	25,558	Distribution.
2,886,573	465,887	734,60	10,796,227	94,922	Généralités.
19,253,793	958,047	7,122,844	61,896,787	1,356,351	Total des capitaux dans les usines commerciales.
13,423,593	625,311	4,587,685	29,894,793	1,075,208	Génération.
1,325,629	—	1,630,679	7,906,411	160,663	Transmission.
3,915,994	241,154	478,044	13,425,084	25,558	Distribution.
588,577	91,582	426,436	10,670,499	94,922	Généralités.
710,961	12,000	53,172	13,596,892	141,122	Non-productrices.
18,542,832	946,047	7,069,672	48,299,895	1,215,229	Productrices.
18,486,248	—	5,728,810	48,093,654	1,206,660	Hydrauliques.
56,584	946,047	1,340,862	206,241	8,569	A combustible.
19,247,880	8,178,727	8,333,616	3,092,442	—	Total des capitaux dans les usines municipales.
7,334,998	4,990,544	4,535,691	1,548,118	—	Génération.
2,596,078	—	143,437	204,927	—	Transmission.
7,018,808	2,813,878	3,346,317	1,213,669	—	Distribution.
2,297,996	374,305	308,171	125,728	—	Généralités.
1,318,107	23,399	58,155	747,532	—	Non-productrices.
17,929,773	8,155,328	8,275,461	2,344,910	—	Productrices.
17,497,197	—	237,480	1,871,054	—	Hydrauliques.
432,576	8,155,328	8,037,981	473,856	—	A combustible.
2,029,068	35,399	111,327	11,344,424	141,122	Total des capitaux dans les usines non-productrices.
155,000	—	—	63,589	40,835	Génération.
580,132	—	—	1,165,266	—	Transmission.
1,028,403	33,581	103,301	10,238,669	24,388	Distribution.
265,533	1,818	8,026	2,876,900	75,899	Généralités.
36,472,605	9,101,375	15,345,133	59,644,895	1,215,229	Total des capitaux dans les usines productrices.
20,603,591	5,615,855	9,123,376	31,379,322	1,034,373	Génération.
3,341,575	—	1,774,116	6,946,072	160,663	Transmission.
9,906,399	3,021,451	3,721,060	4,400,084	1,170	Distribution.
2,621,040	464,069	726,581	7,919,327	19,023	Généralités.
35,983,445	—	5,966,290	49,964,708	1,206,660	Hydrauliques.
20,311,214	—	4,027,789	30,940,439	1,030,528	Génération.
3,341,575	—	1,555,506	6,946,072	160,663	Transmission.
9,750,143	—	76,500	4,186,026	—	Distribution.
2,580,513	—	306,495	7,892,171	15,469	Généralités.
489,160	9,101,375	9,378,843	680,097	8,569	A combustible.
292,377	5,615,855	5,095,587	438,883	3,845	Génération.
—	—	218,610	—	—	Transmission.
156,256	3,021,451	3,644,560	214,058	1,170	Distribution.
40,527	464,069	726,581	27,156	3,554	Généralités.
CAPITAL TOTAL					
178	139	166	203	135	Moyenne par H.P. de la machinerie d'énergie primaire.
154	139	158	187	133	Moyenne par H.P. y compris machinerie auxiliaire.
226	169	211	269	225	Moyenne par K.V.A. de la capacité des dynamos.
193	169	201	246	219	Moyenne par K.V.A. y compris machinerie auxiliaire.
Génération					
83	85	93	90	103	Moyenne par H.P. y compris machinerie auxiliaire.
84	—	106	90	103	Dans les usines productrices.
107	85	85	116	64	Dans les usines hydrauliques.
Dans les usines a combustible.					
Lignes de transmission					
8,291	—	5,344	7,072	2,723	Moyenne par mille de ligne sur poteaux.
Lignes de distribution					
9,306	3,897	3,871	6,359	2,556	Moyenne par mille de ligne sur poteaux.

CENSUS OF INDUSTRY

Table 6—*Revenue, 1926

	Canada	Prince Edward Is — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
REVENUES						
Revenue from Sale of Electric Energy	88,933,733	158,607	2,206,171	1,399,166	25,894,060	39,778,330
Per cent of total for Canada	100.00	18	2.48	1.57	29.12	44.73
For lighting purposes	42,045,674	138,542	1,544,138	1,003,127	9,531,720	17,829,707
For all other purposes	46,888,059	20,065	662,033	396,039	16,362,280	21,948,623
Revenue of Commercial Stations	47,911,555	123,395	1,300,288	829,430	24,750,939	9,818,092
Non-generating	4,853,707	433	561,742	132,815	1,096,549	379,241
Generating	43,057,848	122,872	738,546	696,615	23,654,381	9,438,851
Hydraulic	41,046,282	15,597	224,521	306,889	23,635,828	9,428,539
Fuel	2,011,566	107,275	514,025	389,726	18,553	10,312
Revenue of Municipal Stations	41,022,178	35,302	905,883	569,736	1,143,070	29,960,238
Non-generating	11,956,735	—	169,603	192,490	183,609	10,592,157
Generating	29,065,442	35,302	736,280	377,246	959,461	19,068,081
Hydraulic	23,134,591	—	547,172	333,560	685,044	19,005,478
Fuel	5,930,851	35,302	189,108	43,686	274,417	62,603
Revenue of Non-generating Stations	16,810,443	433	731,345	325,305	1,280,158	11,271,398
Revenue of Generating Stations	72,123,290	158,174	1,474,826	1,073,861	24,613,842	28,506,932
Revenue of Hydraulic Stations	64,189,873	15,597	771,693	649,449	24,320,872	28,434,017
Revenue of Fuel Stations	7,942,417	142,577	703,133	433,412	292,970	72,915
Average net revenue per h.p. of primary power.	23.59	52.54	53.30	38.91	17.06	27.22
Average net revenue per h.p. in main and auxiliary plants.	22.54	51.41	42.50	36.24	16.69	25.99
Average net revenue per K.V.A. of dynamo capacity.	29.69	60.03	64.99	50.22	21.40	33.84
Average net revenue per K.V.A. in main and auxiliary plants.	28.33	60.03	50.69	47.41	20.97	32.34
Average net revenue per k.w.hr. of all stations (cents).	.74	8.79	2.82	2.94	.53	.75
Average net revenue per lighting customer	32.36	35.62	36.73	31.82	27.03	32.57
Average net revenue per power customer..	1,221.93	94.65	433.84	461.58	1,598.66	1,455.77

*Gross revenue with duplications (cost of power) eliminated.

Tableau 6—*Recettes, 1926

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
RECETTES					
4,770,166	3,071,082	3,452,654	8,119,144	84,413	Recettes provenant de la vente d'électricité.
5-36	3-45	3-88	9-13	-10	Pourcentage dans chaque province.
3,238,822	2,247,770	2,406,904	4,049,712	55,232	Pour l'éclairage.
1,531,344	823,312	1,045,750	4,069,432	29,181	Pour tous autres usages.
2,208,097	428,519	1,074,770	7,293,711	84,413	Recettes des usines commerciales.
84,398	409	25,828	2,556,231	16,061	Non-productrices.
2,123,699	428,110	1,048,942	4,737,480	68,352	Productrices.
2,094,376	—	622,105	4,662,770	55,657	Hydrauliques.
29,323	428,110	426,837	74,710	12,695	A combustible.
2,562,069	2,642,563	2,377,884	825,433	—	Recettes des usines municipales.
243,236	8,360	18,835	248,446	—	Non-productrices.
2,318,833	2,634,203	2,359,049	576,987	—	Productrices.
2,096,822	—	36,506	430,009	—	Hydrauliques.
222,011	2,634,203	2,322,543	146,978	—	A combustible.
327,634	8,769	44,663	2,804,677	16,061	Recettes des usines non-génératrices.
4,442,532	3,062,313	3,497,991	5,314,467	68,352	Recettes des usines génératrices.
4,191,198	—	658,611	5,092,779	55,657	Recettes des usines hydrauliques.
251,334	3,062,313	2,749,380	221,688	12,695	Recettes des usines à combustible.
22-08	46-62	37-08	25-41	8-39	Moyenne des recettes nettes par h.p. de machinerie primaire.
19-14	46-62	35-35	23-35	8-26	Moyenne des recettes nettes par h.p. de machinerie principales et auxiliaires.
28-02	56-74	47-19	33-57	14-00	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos.
23-87	56-74	44-80	30-79	13-66	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos principales et auxiliaires.
-77	4-14	2-44	-92	-90	Moyenne des recettes nettes par K.W. Heure (cents) de toutes les usines.
31-69	49-37	41-28	35-18	117-51	Moyenne des recettes nettes par abonnés d'éclairage.
501-59	443-36	513-88	1,157-40	9,727-00	Moyenne des recettes nettes par abonnés force motrice.

*Recettes brutes après élimination des doubles emplois notamment coût de la force motrice.

CENSUS OF INDUSTRY

Table 7—Expenses, 1926

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Expenses	52,766,799	73,972	1,466,457	957,598	11,808,478	28,138,793
Per cent of total for Canada.....	100.00	0.14	2.78	1.81	22.38	53.32
Salaries and wages.....	19,943,000	32,872	547,669	317,809	4,190,470	10,011,436
Fuel.....	2,137,382	37,462	221,024	134,264	38,817	225,813
Taxes.....	4,041,210	3,354	149,490	45,080	1,922,491	1,236,366
Cost of power.....	26,645,207	284	548,874	460,445	5,656,700	16,665,178
Total for Commercial Stations	24,622,619	59,151	1,050,072	561,973	11,159,198	5,505,679
Salaries and wages.....	8,596,178	26,716	347,861	204,710	3,914,196	1,566,766
Fuel.....	916,350	28,797	170,725	119,716	8,060	206,805
Taxes.....	3,677,777	3,354	149,398	44,980	1,909,929	947,533
Cost of power.....	11,432,314	284	382,088	192,567	5,327,013	2,784,575
Non-generating stations.....	5,601,272	284	615,207	189,235	1,149,382	1,294,606
Generating stations.....	19,021,347	58,867	434,855	372,738	10,009,816	4,211,073
Hydraulic stations.....	17,798,976	4,809	79,145	100,107	10,002,822	4,205,771
Fuel stations.....	1,222,371	54,058	355,720	272,631	6,994	5,302
Total for Municipal Stations	28,144,180	14,821	416,385	395,625	649,280	22,633,114
Salaries and wages.....	11,346,822	6,156	199,208	113,099	276,274	8,444,670
Fuel.....	1,221,032	8,665	50,299	14,548	30,737	19,098
Taxes.....	363,433	—	92	100	12,562	288,833
Cost of power.....	15,212,893	—	166,786	267,878	329,687	13,800,603
Non-generating stations.....	19,510,258	—	203,504	266,462	257,827	18,404,993
Generating stations.....	8,633,922	14,821	212,881	129,163	391,453	4,228,121
Hydraulic stations.....	5,561,299	—	111,169	104,298	163,723	4,188,164
Fuel stations.....	3,072,623	14,821	101,712	24,865	227,730	39,957
Total Expenses for Non-generating Stations	25,111,530	284	818,711	455,697	1,197,209	19,699,599
Salaries and wages.....	6,513,615	—	185,806	106,917	238,074	4,925,913
Fuel.....	26,602	—	26,508	94	—	—
Taxes.....	490,610	—	119,869	7,306	38,062	122,736
Cost of power.....	18,080,703	284	486,528	341,380	1,131,073	14,650,950
Total Expenses for Generating Stations	27,655,269	73,688	647,746	501,901	10,401,269	8,439,194
Salaries and wages.....	13,429,385	32,872	361,263	210,892	3,952,396	5,085,523
Fuel.....	2,110,780	37,462	194,516	134,170	38,817	225,813
Taxes.....	3,550,600	3,354	29,621	37,774	1,884,429	1,113,630
Cost of power.....	8,564,504	—	62,346	119,065	4,525,627	2,014,228
Hydraulic stations.....	23,360,275	4,809	190,314	204,405	10,166,545	8,393,965
Fuel stations.....	4,294,994	68,879	457,432	297,496	234,724	45,259

Table 8—Employees, 1926

Total Number of Persons Employed	13,406	33	460	279	3,179	6,306
Per cent of total for Canada.....	100.00	0.25	3.43	2.08	23.34	47.04
Officers, clerks, other salaried employees, etc.....	5,804	13	185	140	1,300	2,876
Employees on wages.....	7,602	20	275	139	1,829	3,430
Total Employees in Commercial Stations	6,178	27	288	189	2,898	1,110
Officers, clerks, other salaried employees, etc.....	2,346	9	121	65	1,196	330
Employees on wages.....	3,832	18	167	124	1,702	780
Non-generating.....	1,045	—	117	42	176	101
Generating.....	5,133	27	171	147	2,722	1,009
Hydraulic.....	4,659	6	55	47	2,719	1,006
Fuel.....	474	21	116	100	3	3
Total Employees in Municipal Stations	7,228	6	172	90	231	5,196
Officers, clerks, other salaried employees, etc.....	3,458	4	64	75	104	2,546
Employees on wages.....	3,770	2	108	15	127	2,650
Non-generating.....	3,594	—	34	54	54	3,353
Generating.....	3,634	6	138	36	177	1,843
Hydraulic.....	2,682	—	95	26	112	1,825
Fuel.....	952	6	43	10	65	18
Total Employees in Non-generating Stations	4,639	—	151	96	230	3,454
Officers, clerks, other salaried employees, etc.....	2,365	—	83	66	116	1,756
Employees on wages.....	2,274	—	68	30	114	1,698
Total Employees in Generating Stations	8,767	33	309	183	2,899	2,852
Officers, clerks, other salaried employees, etc.....	3,439	13	102	74	1,184	1,120
Employees on wages.....	5,328	20	207	109	1,715	1,732
Hydraulic.....	7,341	6	150	73	2,831	2,831
Fuel.....	1,426	27	159	110	68	21

Tableau 7—Dépenses, 1926

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
2,162,427 4-10	1,434,099 2-72	1,805,807 3-42	4,879,090 9-25	40,078 -08	Total des dépenses. Pourcentage dans chaque province.
1,320,376	608,300	933,459	1,958,879	22,330	Traitements, appointements et salaires.
171,401	762,493	457,953	83,374	4,781	Combustible.
82,186	48,641	48,258	504,119	1,225	Taxes.
588,464	14,665	366,137	2,332,718	11,742	Achat d'énergie électrique.
1,098,116	234,428	467,933	4,445,991	40,078	Total pour les usines commerciales.
389,347	88,119	291,076	1,745,057	22,330	Traitements, appointements et salaires.
103,179	138,684	114,596	21,007	4,781	Combustible.
82,186	7,026	28,210	503,936	1,225	Taxes.
523,404	599	34,051	2,178,991	11,742	Achat d'énergie électrique.
104,865	705	48,464	2,182,007	16,517	Usines non-productrices.
993,251	233,723	419,460	2,263,984	23,561	Usines productrices.
975,293	—	187,681	2,230,768	12,580	Usines hydrauliques.
17,958	233,723	231,788	33,216	10,981	Usines à combustible.
1,064,311	1,199,671	1,337,874	433,099	—	Total pour les usines municipales.
931,029	520,181	642,383	213,822	—	Traitements, appointements et salaires.
68,222	623,809	343,357	62,367	—	Combustible.
—	41,615	20,048	183	—	Taxes.
65,060	14,066	332,086	156,727	—	Achat d'énergie électrique.
125,920	16,245	36,291	199,016	—	Usines non-productrices.
938,391	1,183,426	1,301,583	234,083	—	Usines productrices.
823,120	—	10,351	160,474	—	Usines hydrauliques.
115,271	1,183,426	1,291,232	73,609	—	Usines à combustible.
230,785	16,950	84,755	2,381,023	16,517	Total des dépenses pour les usines non-productrices.
70,255	2,285	26,675	953,940	3,750	Traitements, appointements et salaires.
—	—	—	—	—	Combustible.
5,853	—	850	194,909	1,025	Taxes.
154,677	14,665	57,230	1,232,174	11,742	Achat d'énergie électrique.
1,931,642	1,417,149	1,721,052	2,498,067	23,561	Total des dépenses pour les usines productrices.
1,250,121	606,015	906,784	1,004,939	18,580	Traitements, appointements et salaires.
171,401	762,493	457,953	83,374	4,781	Combustible.
76,333	48,641	47,408	309,210	200	Taxes.
433,787	—	308,907	1,100,544	—	Achat d'énergie électrique.
1,798,413	—	198,032	2,391,242	12,580	Usines hydrauliques.
133,229	1,417,149	1,523,020	106,825	10,981	Usines à combustible.

Tableau 8—Personnel, 1926

847 6-32	436 3-25	643 4-80	1,263 9-42	10 -07	Total du personnel occupé. Pourcentage au total dans chaque province.
370	218	254	446	2	Administrateurs, directeurs, commis et tous employés des bureaux.
477	218	389	817	8	Ouvriers et journaliers.
240 97	93 63	212 72	1,111 386	10 2	Personnel des usines commerciales. Administrateurs, directeurs, commis et tous employés des bureaux.
143	25	140	725	8	Ouvriers et journaliers.
7	1	22	577	2	Non productrices.
233	92	190	534	8	Productrices.
223	—	92	506	5	Hydrauliques.
10	92	98	28	3	A combustible.
607 273	343 150	431 182	152 60	—	Personnel des usines municipales. Administrateurs, directeurs, commis et autres employés des bureaux.
234	193	249	92	—	Ouvriers et journaliers.
49	3	11	36	—	Non productrices.
558	340	420	116	—	Productrices.
516	—	16	92	—	Hydrauliques.
42	340	404	24	—	A combustible.
56 25	4 3	33 16	613 299	2 1	Total du personnel des usines non productrices. Administrateurs, directeurs, commis et tous employés des bureaux.
31	1	17	314	1	Ouvriers et journaliers.
791 345	432 215	610 238	650 147	8 1	Total du personnel des usines productrices. Administrateurs, directeurs, commis et tous employés des bureaux.
446	217	372	503	7	Ouvriers et journaliers.
739	—	108	598	5	Hydrauliques.
52	432	502	52	3	A combustible.

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Table 9—Number of Customers, 1926

	Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Number of Customers	1,337,562	4,101	43,568	32,383	362,915	562,507
Per cent of total for Canada.....	100.00	.31	3.26	2.42	27.13	42.05
Domestic light.....	1,110,637	2,945	34,621	26,124	306,871	467,501
Commercial light.....	188,553	944	7,421	5,401	45,809	79,929
Power.....	38,372	212	1,526	858	10,235	15,077
Total Number of Customers of Commer- cial Stations.	584,760	3,330	29,324	18,524	321,844	62,971
Domestic light.....	476,806	2,420	23,025	14,284	270,031	47,227
Commercial light.....	88,831	714	5,108	3,634	42,476	12,969
Power.....	19,123	196	1,191	606	9,337	2,775
Non-generating.....	137,968	32	16,235	6,302	24,004	12,854
Generating.....	446,792	3,298	13,089	12,222	297,840	50,117
Hydraulic.....	408,649	759	3,357	3,323	297,339	49,987
Fuel.....	38,143	2,539	9,732	8,899	501	130
Total Number of Customers of Municipal Stations.	752,802	7.1	14,244	13,559	41,071	499,536
Domestic light.....	633,831	525	11,596	11,840	36,840	420,274
Commercial light.....	99,722	230	2,313	1,767	3,333	66,960
Power.....	19,249	16	335	252	898	12,302
Non-generating.....	518,877	—	6,096	10,541	14,903	468,659
Generating.....	233,925	771	8,148	3,318	26,168	30,877
Hydraulic.....	122,190	—	3,256	2,312	16,147	29,533
Fuel.....	111,735	771	4,892	1,006	10,021	1,344
Total Number of Customers of Non- generating Stations.	656,845	32	22,331	16,843	38,907	481,513
Domestic light.....	545,185	27	17,489	13,885	33,331	400,739
Commercial light.....	93,563	4	3,820	2,626	4,122	68,430
Power.....	18,097	1	1,022	332	1,454	12,344
Total Number of Customers of Generated Stations.	680,717	4,069	21,237	15,540	324,008	80,994
Hydraulic stations.....	530,839	759	6,613	5,635	313,486	79,520
Domestic light.....	445,859	585	5,446	4,839	263,938	65,504
Commercial light.....	69,687	152	993	674	40,980	11,300
Power.....	15,293	22	174	122	8,568	2,716
Fuel Stations.....	149,878	3,310	14,624	9,905	10,522	1,474
Domestic light.....	119,593	2,333	11,686	7,400	9,602	1,258
Commercial light.....	25,303	788	2,608	2,101	707	199
Power.....	4,982	189	330	404	213	17
Average Number of Domestic Light Customers per 100 of Population.	11.83	3.40	6.35	6.36	11.78	14.67

Table 10—Pole Line Mileage, 1926

Pole Line Mileage	29,695	96	1,221	1,000	6,758	13,350
Per cent of total for Canada.....	100.00	.32	4.11	3.37	22.76	44.96
For transmission.....	10,645	—	223	252	3,079	5,080
For distribution.....	19,050	96	998	748	3,679	8,270
Total Pole Line Mileage—Commercial Sta- tions.	14,257	81	770	512	6,220	2,155
Non-generating.....	3,328	7	330	179	985	197
Generating.....	10,929	74	440	333	5,235	1,958
Hydraulic.....	9,846	39	200	98	5,223	1,954
Fuel.....	1,083	35	240	235	12	4
Total Pole Line Mileage—Municipal Sta- tions.	15,438	15	451	488	538	11,195
Non-generating.....	6,362	—	146	166	246	5,240
Generating.....	9,076	15	305	322	292	5,955
Hydraulic.....	7,424	—	212	292	237	5,927
Fuel.....	1,652	15	93	30	55	28
Total Pole Line Mileage—Non-Generating Stations.	9,690	7	476	345	1,231	5,437
Total Pole Line Mileage—Generating Sta- tions.	20,005	89	745	655	5,527	7,913
Hydraulic stations.....	17,270	39	412	390	5,460	7,881
Fuel stations.....	2,735	50	333	265	67	32

Tableau 9—Abonnés, 1926

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
105,263 7.87	47,387 3.54	60,346 4.51	118,619 8.87	473 .04	Nombre d'abonnés. Pourcentage du total pour le Canada.
88,727	36,582	48,317	98,593	356	Eclairage, particuliers.
13,483	8,948	9,994	16,510	114	Eclairage, commerçants.
3,053	1,857	2,035	3,516	3	Force motrice.
32,903	7,712	10,972	96,707	473	Nombre total des abonnés des usines commerciales.
25,729	5,573	7,878	80,283	356	Eclairage, particuliers.
5,453	2,063	2,702	13,598	114	Eclairage, commerçants.
1,721	76	392	2,826	3	Force motrice.
5,556	164	1,441	71,048	332	Non productrices.
27,347	7,548	9,531	25,659	141	Productrices.
26,870	—	2,651	24,359	4	Hydrauliques.
477	7,548	6,880	1,300	137	A combustible.
72,360	39,675	49,374	21,912	—	Nombre total des abonnés des usines municipales.
62,998	31,009	40,439	18,310	—	Eclairage, particuliers.
8,030	6,885	7,292	2,912	—	Eclairage, commerçants.
1,332	1,781	1,643	690	—	Force motrice.
6,098	482	1,256	10,842	—	Non productrices.
66,262	39,193	48,118	11,070	—	Productrices.
62,580	—	663	7,699	—	Hydrauliques.
3,682	39,193	47,455	3,371	—	A combustible.
11,654	646	2,697	81,890	332	Nombre des abonnés des usines non productrices.
9,870	508	2,229	66,863	244	Eclairage, particuliers.
1,440	122	399	12,512	88	Eclairage, commerçants.
344	16	69	2,515	—	Force motrice.
93,609	46,741	57,649	36,729	141	Nombre total des abonnés des usines productrices.
89,450	—	3,314	32,058	4	Hydrauliques.
75,642	—	1,991	27,914	—	Eclairage, particuliers.
11,225	—	1,126	3,236	1	Eclairage, commerçants.
2,583	—	197	908	3	Force motrice.
4,159	46,741	54,335	4,671	137	A combustible.
3,215	36,074	44,097	3,816	112	Eclairage, particuliers.
818	8,826	8,469	762	25	Eclairage, commerçants.
126	1,841	1,769	93	—	Force motrice.
13.71	4.38	7.83	17.15	10.26	Moyenne des consommateurs d'éclairage électrique par 100 habitants.

Tableau 10—Longueur (en milles) des lignes sur poteaux, 1926

1,648 5.55	784 2.64	1,320 4.44	3,449 11.62	69 .23	Longueur totale en milles des lignes sur poteaux. Pourcentage dans chaque province.
473	—	332	1,147	59	Pour la transmission.
1,175	784	988	2,302	10	Pour la distribution.
793	218	557	2,882	69	Pour le service des usines commerciales.
173	8	28	1,415	6	Non productrices.
620	210	529	1,467	63	Productrices.
599	—	239	1,433	61	Hydrauliques.
21	210	290	34	2	A combustible.
855	566	763	567	—	Pour le service des usines municipales.
272	14	40	238	—	Non productrices.
583	552	723	329	—	Productrices.
515	—	16	225	—	Hydrauliques.
68	552	707	104	—	A combustible.
445	22	68	1,653	6	Pour le service des usines non productrices.
1,263	762	1,252	1,796	63	Pour le services des usines productrices.
1,114	—	255	1,658	61	Hydrauliques.
89	762	997	138	2	A combustible.

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Table 11—Equipment, 1926

TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Prince Edward Is. Île du Prince Édouard	Nova Scotia Nouvelle- Écosse	New Brunswick Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.	3,946,188	3,085	51,968	38,610	1,551,555	1,530,341
Per cent of total for Canada.....	100.00	.08	1.31	.98	39.32	38.78
Water wheels and turbines..... No.	730	8	38	16	252	311
Total capacity..... H.P.	3,609,385	279	31,420	26,100	1,519,155	1,459,826
Steam engines..... No.	199	2	28	19	14	22
Total capacity..... H.P.	58,915	410	8,473	5,911	5,305	8,490
Steam turbines..... No.	86	1	10	5	8	11
Total capacity..... H.P.	255,462	1,340	11,545	5,075	26,965	60,950
Gas and oil engines..... No.	357	8	6	12	4	12
Total capacity..... H.P.	22,426	1,056	470	1,524	130	1,077
Total Dynamo Capacity..... K.V.A.	3,141,745	2,642	43,519	29,599	1,234,680	1,230,001
Per cent of total for Canada.....	100.00	.08	1.39	.94	39.31	39.16
Dynamos, A.C..... No.	1,063	15	79	42	257	319
Capacity..... K.V.A.	3,129,438	2,634	42,344	28,359	1,233,405	1,227,549
Dynamos, D.C..... No.	255	1	6	9	7	17
Capacity..... K.W.	11,777	8	1,175	1,150	1,275	2,452
Commercial Stations						
Total Primary Power..... H.P.	2,545,466	2,555	21,990	25,035	1,527,890	435,757
Water wheels and turbines..... No.	531	8	14	10	232	190
Total capacity..... H.P.	2,388,551	279	5,185	14,040	1,499,120	398,092
Steam engines..... No.	102	2	19	16	8	7
Total capacity..... H.P.	28,494	410	5,925	5,496	3,105	1,240
Steam turbines..... No.	42	1	7	5	7	4
Total capacity..... H.P.	121,649	1,340	10,800	5,075	25,635	35,500
Gas and oil engines..... No.	221	4	8	6	2	2
Total capacity..... H.P.	6,772	526	80	424	40	115
Total Dynamo Capacity..... K.V.A.	2,041,151	2,177	18,635	19,029	1,216,148	383,857
Dynamos, A.C..... No.	644	11	37	27	226	180
Capacity..... K.V.A.	2,034,908	2,169	17,885	17,935	1,214,898	383,114
Dynamos, D.C..... No.	207	1	4	8	6	11
Capacity..... K.W.	6,243	8	750	1,094	1,250	743
Municipal Stations						
Total Primary Power..... H.P.	1,490,722	530	29,918	13,575	23,665	1,094,588
Water wheels and turbines..... No.	199	-	24	6	20	121
Total capacity..... H.P.	1,220,834	-	26,235	12,060	20,035	1,060,924
Steam engines..... No.	97	-	3	9	6	15
Total capacity..... H.P.	30,421	-	2,548	415	2,200	7,250
Steam turbines..... No.	44	-	3	-	1	7
Total capacity..... H.P.	133,813	-	745	-	1,340	25,450
Gas and oil engines..... No.	136	4	5	6	2	10
Total capacity..... H.P.	15,654	530	390	1,100	90	962
Total Dynamo Capacity..... K.V.A.	1,100,064	465	24,884	10,480	18,532	846,144
Dynamos, A.C..... No.	419	4	42	15	31	139
Capacity..... K.V.A.	1,094,530	465	24,459	10,424	18,507	844,435
Dynamos, D.C..... No.	48	-	2	1	1	6
Capacity..... K.W.	5,534	-	425	56	25	1,709

Table 12—Auxiliary Plant Equipment, 1926

Total Primary Power..... H.P.	176,865	66	10,513	2,650	28,465	69,135
Per cent of total for Canada.....	100.00	.04	5.94	1.50	16.10	39.09
Steam reciprocating engines..... No.	48	1	9	6	6	16
Total capacity..... H.P.	22,529	60	3,733	1,825	2,940	7,590
Steam turbines..... No.	39	-	2	-	6	11
Total capacity..... H.P.	151,615	-	6,700	-	25,500	60,850
Gas and oil engines..... No.	16	1	1	4	1	4
Total capacity..... H.P.	2,721	6	80	825	25	595
Total Secondary Power..... K.V.A.	145,828	-	9,573	1,647	24,650	51,513
Commercial Stations						
Total Primary Power..... H.P.	122,222	66	8,820	1,750	28,465	36,490
Steam reciprocating engines..... No.	26	1	4	4	6	8
Total capacity..... H.P.	12,286	60	2,040	1,450	2,940	890
Steam turbines..... No.	27	-	2	-	6	4
Total capacity..... H.P.	109,425	-	6,700	-	25,500	35,500
Gas and oil engines..... No.	6	1	1	2	1	1
Total capacity..... H.P.	511	6	80	300	25	100
Total Secondary Power..... K.V.A.	103,103	-	7,947	1,050	24,650	31,455
Municipal Stations						
Total Primary Power..... H.P.	54,643	-	1,693	900	-	32,644
Steam reciprocating engines..... No.	22	-	5	2	-	11
Total capacity..... H.P.	10,243	-	1,693	375	-	6,700
Steam turbines..... No.	12	-	-	-	-	4
Total capacity..... H.P.	42,190	-	-	-	-	25,450
Gas and oil engines..... No.	10	-	-	2	-	1
Total capacity..... H.P.	2,210	-	-	525	-	403
Total Secondary Power..... K.V.A.	42,725	-	1,626	597	-	23,061

Tableau 11—Machinerie, 1926

TOTAL DE LA MACHINERIE, Y COMPRIS CELLE DES USINES AUXILIAIRES

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
249,246	65,872	97,671	347,678	10,220	Total force motrice primaire..... H.P.
6-32	1-67	2-48	8-81	-25	Pourcentage dans chaque province.
29	—	16	58	2	Turbines et roues hydrauliques..... Nomb.
213,325	—	33,520	315,760	10,000	Capacité totale..... H.P.
21	22	57	13	1	Machines à vapeur..... Nomb.
5,837	5,129	17,131	2,169	60	Capacité totale..... H.P.
7	16	15	12	1	Turbines à vapeur..... Nomb.
28,840	49,822	43,950	26,815	160	Capacité totale..... H.P.
20	205	69	21	—	Moteurs à gaz et à pétrole..... Nomb.
1,244	10,021	3,070	2,934	—	Capacité totale..... H.P.
199,802	54,122	77,068	263,692	6,150	Capacité des dynamos.....
6-36	1-72	2-45	8-39	-20	Pourcentage dans chaque province.
59	95	98	96	3	Dynamos, C.A..... Nomb.
199,405	52,309	73,951	263,332	6,150	Capacité totale..... K.V.A.
16	135	52	10	2	Dynamos, D.C..... Nomb.
397	1,813	3,117	360	30	Capacité totale..... K.W.
Usines commerciales					
140,557	4,734	44,780	331,948	10,220	Total force motrice primaire..... H.P.
14	—	14	47	—	Turbines et roues hydrauliques..... Nomb.
122,800	—	32,560	305,665	10,000	Capacité totale..... H.P.
9	9	23	8	1	Machines à vapeur..... Nomb.
3,507	1,027	6,630	1,094	60	Capacité totale..... H.P.
4	1	3	9	1	Turbines à vapeur..... Nomb.
14,100	84	4,300	24,665	160	Capacité totale..... H.P.
7	136	52	11	—	Moteurs à gaz et à pétrole..... Nomb.
150	3,623	1,290	524	—	Capacité totale..... H.P.
106,699	3,038	32,683	235,705	6,150	Capacité des dynamos.....
23	25	46	66	3	Dynamos, C.A..... Nomb.
106,526	1,542	32,344	252,345	6,150	Capacité totale..... K.V.A.
9	113	43	10	2	Dynamos, C.D..... Nomb.
173	1,496	339	360	30	Capacité totale..... K.W.
Usines municipales					
108,689	61,138	52,891	15,730	—	Total force motrice primaire..... H.P.
15	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
90,525	—	960	10,095	—	Capacité totale..... H.P.
12	13	34	5	—	Machines à vapeur..... Nomb.
2,330	4,102	10,501	1,075	—	Capacité totale..... H.P.
3	15	12	3	—	Turbines à vapeur..... Nomb.
14,740	49,738	39,650	2,150	—	Capacité totale..... H.P.
13	69	17	10	—	Moteurs à gaz et à pétrole..... Nomb.
1,094	7,298	1,780	2,410	—	Capacité totale..... H.P.
93,103	51,084	44,385	10,987	—	Capacité des dynamos.....
36	70	52	30	—	Dynamos, C.A..... Nomb.
92,879	50,677	41,607	10,987	—	Capacité totale..... K.V.A.
17	22	9	—	—	Dynamos, C.D..... Nomb.
224	317	2,778	—	—	Capacité totale..... K.W.

Tableau 12—Machines des usines auxiliaires, 1926

33,186	—	4,550	28,140	160	Total force motrice primaire..... H.P.
18-76	—	2-57	15-91	-09	Pourcentage dans chaque province.
5	—	2	3	—	Machines à vapeur..... Nomb.
4,106	—	1,250	1,025	—	Capacité totale..... H.P.
7	—	2	10	1	Turbines à vapeur..... Nomb.
28,840	—	3,300	26,165	160	Capacité totale..... H.P.
2	—	—	3	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	950	—	Capacité totale..... H.P.
29,588	—	3,900	21,892	150	Machinerie développant la force motrice secon-
					daire..... K.V.A.
Usines commerciales					
17,306	—	4,559	24,165	160	Total force motrice primaire..... H.P.
3	—	2	1	—	Machines à vapeur..... Nomb.
3,206	—	1,250	450	—	Capacité totale..... H.P.
4	—	2	8	1	Turbines à vapeur..... Nomb.
14,100	—	3,300	24,165	160	Capacité totale..... H.P.
—	—	—	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	—	—	—	—	Capacité totale..... H.P.
15,063	—	3,900	18,890	150	Machinerie développant la force motrice secon-
					daire..... K.V.A.
Usines municipales					
15,880	—	—	3,525	—	Total force motrice primaire..... H.P.
2	—	—	2	—	Machines à vapeur..... Nomb.
900	—	—	575	—	Capacité totale..... H.P.
3	—	—	2	—	Turbines à vapeur..... Nomb.
14,740	—	—	2,000	—	Capacité totale..... H.P.
2	—	—	3	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	950	—	Capacité totale..... H.P.
14,525	—	—	2,912	—	Machinerie développant la force motrice secon-
					daire..... K.V.A.

CENSUS OF INDUSTRY

Table 13—Main Plant Equipment, 1926

		Canada	Prince Edward Is. — Île du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.							
Per cent of total of Canada.....	H.P.	3,769,323	3,019	41,395	35,960	1,523,090	1,461,208
Water wheels and turbines.....	No.	100-00	0-08	1-10	-95	40-41	38-77
Total capacity.....	H.P.	730	8	38	16	252	311
Steam reciprocating engines.....	No.	3,609,385	279	31,420	26,100	1,519,155	1,450,826
Total capacity.....	H.P.	151	1	19	13	8	6
Steam turbines.....	No.	36,386	350	4,740	4,086	2,365	900
Total capacity.....	H.P.	47	1	8	5	2	-
Gas and oil engines.....	No.	103,847	1,340	4,845	5,075	1,465	-
Total capacity.....	H.P.	341	7	5	8	3	8
Total capacity.....	H.P.	19,705	1,050	390	699	105	482
Total Dynamo Capacity..... K.V.A.							
Per cent of total for Canada.....	K.V.A.	2,995,387	2,642	33,946	27,862	1,210,030	1,175,483
Dynamos, A.C.....	No.	100-00	0-09	1-13	0-93	40-40	39-24
Total capacity.....	K.V.A.	977	15	67	33	247	300
Dynamos, D.C.....	No.	2,985,935	2,634	33,196	26,712	1,208,755	1,174,931
Total capacity.....	K.W.	249	1	4	9	7	13
Total capacity.....	K.W.	9,452	8	750	1,150	1,275	552
Commercial Stations							
Total Primary Power..... H.P.							
Per cent of total for Canada.....	H.P.	2,423,244	2,489	13,170	23,285	1,499,425	399,267
Water wheels and turbines.....	No.	100-00	0-10	-54	-96	61-88	16-48
Total capacity.....	H.P.	531	8	14	10	232	190
Steam reciprocating engines.....	No.	2,388,551	279	5,185	14,040	1,499,120	398,902
Total capacity.....	H.P.	76	1	15	12	2	2
Steam turbines.....	No.	16,208	350	3,885	4,046	165	350
Total capacity.....	H.P.	15	1	5	5	1	-
Gas and oil engines.....	No.	12,224	1,340	4,100	5,075	125	-
Total capacity.....	H.P.	215	3	-	4	1	1
Total capacity.....	H.P.	6,261	520	-	124	15	15
Total Dynamo Capacity..... K.V.A.							
Per cent of total.....	K.V.A.	1,938,048	2,177	10,688	17,979	1,191,498	352,404
Dynamos, A.C.....	No.	100-00	0-11	-55	-93	61-48	18-18
Total capacity.....	K.V.A.	594	11	30	22	216	173
Dynamos, D.C.....	No.	1,932,005	2,169	9,938	16,885	1,190,248	351,861
Total capacity.....	K.W.	206	1	4	8	6	10
Total capacity.....	K.W.	6,043	8	750	1,094	1,250	543
Municipal Stations							
Total Primary Power..... H.P.							
Per cent of total for Canada.....	H.P.	1,346,079	530	28,225	12,675	23,665	1,061,941
Water wheels and turbines.....	No.	100-00	-04	2-10	-94	1-76	78-89
Total capacity.....	H.P.	199	-	24	6	20	121
Steam reciprocating engines.....	No.	1,220,834	-	26,235	12,060	20,035	1,060,924
Total capacity.....	H.P.	75	-	4	1	6	4
Steam turbines.....	No.	20,178	-	855	40	2,200	550
Total capacity.....	H.P.	32	-	3	-	1	-
Gas and oil engines.....	No.	91,623	-	745	-	1,340	-
Total capacity.....	H.P.	126	4	5	4	2	7
Total capacity.....	H.P.	13,444	530	390	575	90	467
Total Dynamo Capacity..... K.V.A.							
Per cent of total for Canada.....	K.V.A.	1,057,339	465	23,258	9,883	18,532	823,079
Dynamos, A.C.....	No.	100-00	-04	2-20	-94	1-75	77-84
Total capacity.....	K.V.A.	383	4	37	11	31	127
Dynamos, D.C.....	No.	1,053,930	465	23,258	9,827	18,507	823,070
Total capacity.....	K.W.	43	-	-	1	1	3
Total capacity.....	K.W.	3,409	-	-	56	25	9
Hydraulic Stations							
Total Dynamo Capacity..... K.V.A.							
Per cent of total for Canada.....	K.V.A.	2,865,614	332	26,511	21,038	1,206,938	1,174,632
Dynamos, A.C.....	No.	100-00	-01	-93	-73	42-12	40-99
Total capacity.....	K.V.A.	689	6	40	15	236	291
Dynamos, D.C.....	No.	2,863,557	324	26,511	20,788	1,205,695	1,174,146
Total capacity.....	K.W.	17	1	-	1	5	8
Total capacity.....	K.W.	2,057	8	-	250	1,243	486
Fuel Stations							
Total Dynamo Capacity..... K.V.A.							
Per cent of total for Canada.....	K.V.A.	129,773	2,310	7,435	6,824	3,092	851
Dynamos, A.C.....	No.	100-00	1-78	5-73	5-26	2-38	-66
Total capacity.....	K.V.A.	288	9	27	18	11	9
Dynamos, D.C.....	No.	122,378	2,310	6,685	5,924	3,060	785
Total capacity.....	K.W.	232	-	4	8	2	5
Total capacity.....	K.W.	7,395	-	750	900	32	66

Tableau 13—Machines des usines principales, 1926

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
216,060	65,872	93,121	319,538	10,060	Machinerie fournis. la force motrice primaire, H.P.
5-73	1-75	2-47	8-47	27	Pourcentage dans chaque province.....
29	—	16	58	2	Turbines et roues hydrauliques..... Nomb.
213,325	—	33,520	315,760	10,000	Capacité totale..... H.P.
16	22	55	10	1	Machines à vapeur..... Nomb.
1,731	5,129	15,881	1,144	60	Capacité totale..... H.P.
—	16	13	2	—	Turbines à vapeur..... Nomb.
—	49,822	40,650	650	—	Capacité totale..... H.P.
18	205	69	18	—	Moteurs à gaz et à pétrole..... Nomb.
1,004	10,921	3,070	1,984	—	Capacité totale..... H.P.
170,214	54,122	73,168	241,890	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
5-68	1-81	2-44	8-08	20	Pourcentage dans chaque province.....
45	95	94	79	2	Dynamos, C.A..... Nomb.
169,817	52,309	70,051	241,530	6,000	Capacité totale..... K.V.A.
16	135	52	10	2	Dynamos, C.D..... Nomb.
397	1,813	3,117	360	30	Capacité totale..... K.W.
Usines commerciales					
123,251	4,734	40,230	307,333	10,060	Machinerie fournis. la force motrice primaire, H.P.
5-09	1-19	1-66	12-69	41	Pourcentage dans chaque province.....
14	—	14	47	2	Turbines et roues hydrauliques..... Nomb.
122,800	—	32,560	305,665	10,000	Capacité totale..... H.P.
6	9	21	7	1	Machines à vapeur..... Nomb.
301	1,027	5,380	644	60	Capacité totale..... H.P.
—	—	1	1	—	Turbines à vapeur..... Nomb.
—	84	1,000	500	—	Capacité totale..... H.P.
7	136	52	11	—	Moteurs à gaz et à pétrole..... Nomb.
150	3,623	1,290	524	—	Capacité totale..... H.P.
91,636	3,038	28,783	233,815	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
4-73	1-16	1-49	12-06	31	Pourcentage dans chaque province.....
16	25	42	57	2	Dynamos, C.A..... Nomb.
91,433	1,542	28,444	233,455	6,000	Capacité totale..... K.V.A.
9	113	43	10	2	Dynamos, C.D..... Nomb.
173	1,496	339	360	30	Capacité totale..... K.W.
Usines municipales					
92,809	61,138	52,891	12,205	—	Machinerie fournis. la force motrice primaire, H.P.
6-89	4-54	3-93	91	—	Pourcentage dans chaque province.....
15	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
90,525	—	960	10,095	—	Capacité totale..... H.P.
10	13	34	3	—	Machines à vapeur..... Nomb.
1,430	4,102	10,501	500	—	Capacité totale..... H.P.
—	15	12	1	—	Turbines à vapeur..... Nomb.
—	49,738	39,650	150	—	Capacité totale..... H.P.
11	69	17	7	—	Moteurs à gaz et à pétrole..... Nomb.
854	7,298	1,780	1,460	—	Capacité totale..... H.P.
78,578	51,084	44,385	8,075	—	Capacité totale de l'ensemble des dynamos... K.V.A.
7-43	4-83	4-21	76	—	Pourcentage dans chaque province.....
29	70	52	22	—	Dynamos, C.A..... Nomb.
78,354	50,767	41,607	8,075	—	Capacité totale..... K.V.A.
7	22	9	—	—	Dynamos, C.D..... Nomb.
224	317	2,778	—	—	Capacité totale..... K.W.
Usines hydrauliques					
168,162	—	23,200	238,801	6,000	Capacité totale de l'ensemble des dynamos... K.V.A.
5-87	—	81	8-33	5-21	Pourcentage dans chaque province.....
29	—	12	58	2	Dynamos, C.A..... Nomb.
168,162	—	23,200	238,731	6,000	Capacité totale..... K.V.A.
—	—	—	2	—	Dynamos, C.D..... Nomb.
—	—	—	70	—	Capacité totale..... K.W.
Usines à combustible					
2,052	54,122	49,968	3,089	30	Capacité totale de l'ensemble des dynamos... K.V.A.
1-58	41-71	38-50	2-38	02	Pourcentage dans chaque province.....
16	95	82	21	—	Dynamos, C.A..... Nomb.
1,655	52,309	46,851	2,799	—	Capacité totale..... K.V.A.
16	135	52	8	2	Dynamos, C.D..... Nomb.
397	1,813	3,117	290	30	Capacité totale..... K.W.

CENSUS OF INDUSTRY

Table 14—Main Plant Equipment, Classified, 1926

		Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick
Primary Power—Force motrice primaire		3,769,323	3,019	41,395	35,960
Water wheels and turbines—Roues hydrauliques et turbines—					
Total No.	730		8	38	16
Total H.P.	3,609,385		279	31,420	26,100
Under—Au-dessous de 500 H.P.—	No.	224	8	24	6
500-2,000 H.P.	Total H.P.	39,915	279	4,080	1,550
2,000-5,000 H.P.	No.	204	—	10	3
5,000-10,000 H.P.	Total H.P.	227,890	—	14,420	2,050
10,000-15,000 H.P.	No.	103	—	4	6
15,000-55,000 H.P.	Total H.P.	302,880	—	12,920	17,500
	No.	75	—	—	1
	Total H.P.	486,900	—	—	5,000
	No.	64	—	—	—
	Total H.P.	743,100	—	—	—
	No.	60	—	—	—
	Total H.P.	1,808,700	—	—	—
Steam reciprocating engines—Machines à vapeur—					
Total No.	151		1	19	13
Total H.P.	36,386		350	4,740	4,086
Under—Au-dessous de 500 H.P.	No.	133	1	18	10
500 up	Total H.P.	21,676	350	4,140	1,186
	No.	18	—	1	3
	Total H.P.	14,710	—	600	2,900
Steam turbines—Turbines à vapeur—					
Total No.	47		1	8	5
Total H.P.	103,847		1,340	4,845	5,075
Under—Au-dessous de 500 B.P.	No.	9	—	4	1
500-2,000 H.P.	Total H.P.	1,784	—	775	250
2,000-5,000 H.P.	No.	17	1	5	3
5,000-10,000 H.P.	Total H.P.	16,928	1,340	4,070	1,825
	No.	15	—	—	1
	Total H.P.	43,160	—	—	3,000
	No.	6	—	—	—
	Total H.P.	41,975	—	—	—
Gas and Oil engines—Moteurs à gaz et à pétrole—					
Total No.	341		7	5	8
Total H.P.	19,705		1,050	390	699
Secondary Power—Force motrice secondaire					
Dynamos A.C. and D.C.—C.A. et C.D.—					
Total No.	1,226		16	71	42
Total K.V.A.	2,995,387		2,642	33,946	27,862
Dynamos, A.C.—C.A.					
Total No.	977		15	67	33
Total K.V.A.	2,985,935		2,634	33,196	26,712
Under—Au-dessous de 200 K.V.A.	No.	324	13	34	16
200-500 K.V.A.	Total K.V.A.	29,723	1,134	3,079	1,887
500-1,000 K.V.A.	No.	129	1	15	5
1,000-5,000 K.V.A.	Total K.V.A.	39,737	250	4,292	1,650
5,000-10,000 K.V.A.	No.	135	—	5	4
10,000 K.V.A. and over	Total K.V.A.	97,626	—	3,325	2,450
	No.	219	1	13	8
	Total K.V.A.	484,872	1,250	22,500	20,725
	No.	80	—	—	—
	Total K.V.A.	567,712	—	—	—
	No.	90	—	—	—
	Total K.V.A.	1,766,265	—	—	—
Dynamos, D.C.—C.D.					
Total No.	249		1	4	9
Total K.W.	9,452		8	750	1,150
Under—Au-dessous de 200 K.W.	No.	226	1	2	7
200-500 K.W.	Total K.W.	3,952	8	200	250
500-1,000 K.W.	No.	8	—	2	1
	Total K.W.	2,400	—	550	250
	No.	5	—	—	1
	Total K.W.	3,100	—	—	650

Tableau 14—Machines des usines principales classifiées, 1926

Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia — Colombie Britannique	Yukon	Commercial — Commerciales	Municipal — Municipales
1,523,090	1,461,208	216,060	65,872	93,121	319,538	10,060	2,423,244	1,346,079
252	311	29	—	16	58	2	531	199
1,519,155	1,459,826	213,325	—	33,520	315,760	10,000	2,388,551	1,220,834
80	81	1	—	10	14	—	176	48
14,840	14,581	125	—	1,920	2,540	—	29,466	10,449
64	111	2	—	—	14	—	132	72
72,540	121,760	1,000	—	—	16,120	—	141,585	86,305
28	52	4	—	2	7	—	84	19
79,825	150,235	12,800	—	8,000	21,600	—	250,700	52,180
27	14	19	—	4	8	2	56	19
187,350	84,550	115,400	—	23,600	61,000	10,000	369,700	117,200
24	29	—	—	—	11	—	47	17
259,900	346,200	—	—	—	137,000	—	530,900	212,200
29	24	3	—	—	4	—	36	24
904,700	742,500	84,000	—	—	77,500	—	1,066,200	742,500
8	6	16	22	55	10	1	76	75
2,365	900	1,731	5,129	15,881	1,144	60	16,208	20,178
7	6	16	20	44	10	1	68	65
1,665	900	1,731	3,279	7,221	1,144	60	10,068	11,608
1	—	—	2	11	—	—	8	10
700	—	—	1,850	8,660	—	—	6,140	8,570
2	—	—	16	13	2	—	15	32
1,465	—	—	49,822	40,650	650	—	12,224	91,622
1	—	—	2	—	4	—	5	5
125	—	—	484	—	150	—	489	1,295
1	—	—	4	3	1	—	10	7
1,340	—	—	4,853	3,009	500	—	8,735	8,193
—	—	—	7	—	—	—	1	14
—	—	—	21,710	18,450	—	—	3,000	40,160
—	—	—	3	3	—	—	—	6
—	—	—	22,775	19,200	—	—	—	41,975
3	8	18	205	69	18	—	215	126
105	482	1,004	10,921	3,070	1,980	—	6,261	13,444
254	313	61	230	146	89	4	800	426
1,210,030	1,175,483	170,214	54,122	73,168	241,890	6,030	1,938,048	1,057,339
247	300	45	95	94	79	2	594	383
1,208,755	1,174,931	169,817	52,309	70,051	241,530	6,000	1,932,005	1,053,930
50	43	14	70	55	29	—	167	157
5,327	4,445	1,230	4,892	4,707	3,022	—	14,800	14,923
30	40	5	7	16	10	—	74	55
9,126	11,893	1,487	2,138	5,381	3,520	—	22,425	17,312
41	66	—	5	6	8	—	91	44
30,032	48,289	—	2,904	4,088	6,538	—	65,510	32,116
56	90	14	10	14	11	2	148	71
120,270	183,402	46,350	23,625	38,375	22,375	6,000	332,505	152,367
20	32	9	3	3	13	—	47	33
127,500	258,262	57,750	18,750	17,500	87,950	—	322,700	245,012
50	29	3	—	—	8	—	67	23
916,500	668,640	63,000	—	—	118,125	—	1,174,065	592,200
7	13	16	135	52	10	2	206	43
1,275	552	397	1,813	3,117	360	30	6,043	3,409
4	13	16	135	47	9	2	198	38
75	552	397	1,813	467	160	30	3,193	759
2	—	—	—	2	1	—	6	2
600	—	—	—	800	200	—	1,600	800
1	—	—	—	3	—	—	2	3
600	—	—	—	1,850	—	—	1,220	1,850

Table 15—Electric Energy Generated, 1926

	Canada	Prince Edward Is. Ile du Prince Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau- Brunswick	Quebec	Ontario
ALL STATIONS						
Total K.W. Hours Generated (thousands)	12,093,445	1,804	78,249	47,541	4,916,438	5,321,756
Per cent of total for Canada.....	100.00	.01	.65	.39	4.065	44.01
K.W. Hours generated by non-generating stations..... (thousands)	8,806	—	2,492	2	—	6,312
K.W. Hours generated by generating sta- tions..... (thousands)	12,084,639	1,804	75,757	47,539	4,916,438	5,315,444
K.V.A. capacity of generating stations.....	3,120,825	2,642	34,353	27,862	1,231,555	1,224,936
Ratio of output to maximum capacity.....	45.5	12.3	25.2	19.3	47.4	49.5
Average K.W. Hrs. per K.V.A.....	3,872	683	2,205	1,706	3,992	43.39
GENERATING STATIONS						
Commercial Stations						
Total						
K.W. hours generated..... (thousands)	7,795,121	1,456	19,830	24,445	4,882,065	1,617,359
K.V.A. capacity..... (thousands)	2,029,286	2,177	11,095	17,979	1,213,023	383,887
Ratio of output to maximum capacity (p.c.)	45.6	13.7	20.4	15.5	47.8	48.1
Average K.W. hours per K.V.A.....	3,824	669	1,787	1,360	4,025	4,213
Hydraulic						
K.W. hours generated..... (thousands)	7,760,602	96	8,096	12,993	4,881,795	1,617,218
K.V.A. capacity..... (thousands)	2,003,700	332	5,248	11,675	1,212,811	383,675
Ratio of output to maximum capacity (p.c.)	46.0	3.3	17.6	12.7	47.9	48.1
Average K.W. Hrs. per K.V.A.....	3,873	289	1,543	1,113	4,025	4,215
Fuel						
K.W. hours generated..... (thousands)	34,519	1,360	11,734	11,452	270	141
K.V.A. capacity..... (thousands)	25,586	1,845	5,847	6,304	212	182
Ratio of output to maximum capacity (p.c.)	16.0	17.7	22.9	20.7	14.5	8.8
Average K.W. hrs. per K.V.A.....	1,349	737	2,007	1,817	127	129
Municipal Stations						
Total						
K.W. hours generated..... (thousands)	4,289,518	348	55,827	23,094	34,373	3,698,085
K.V.A. capacity..... (thousands)	1,091,539	465	23,258	9,883	18,532	841,079
Ratio of output to maximum capacity (p.c.)	45.3	8.5	27.4	26.7	21.2	50.1
Average K.W. hrs. per K.V.A.....	3,930	748	2,400	2,337	1,855	4,397
Hydraulic						
K.W. hours generated..... (thousands)	4,150,437	—	53,510	22,462	33,530	3,697,459
K.V.A. capacity..... (thousands)	987,352	—	21,670	9,363	15,652	840,410
Ratio of output to maximum capacity (p.c.)	48.5	—	28.2	27.4	24.5	50.2
Average K.W. hrs. per K.V.A.....	4,204	—	2,469	2,399	2,142	4,400
Fuel						
K.W. hours generated..... (thousands)	139,081	348	2,317	632	843	626
K.V.A. capacity..... (thousands)	104,187	465	1,588	520	2,880	669
Ratio of output to maximum capacity (p.c.)	15.2	6.6	16.7	13.9	3.3	10.7
Average K.W. hrs. per K.V.A.....	1,335	748	1,459	122	293	936
Total Hydraulic						
K.W. hours generated..... (thousands)	11,911,039	96	61,606	35,455	4,915,325	5,314,677
K.V.A. capacity..... (thousands)	2,991,052	332	26,918	21,038	1,228,463	1,224,085
Ratio of output to maximum capacity (p.c.)	46.8	3.3	26.1	19.2	47.5	49.6
Average K.W. hrs. per K.V.A.....	3,982	289	2,289	1,655	4,001	4,342
Total Fuel						
K.W. hours generated..... (thousands)	173,600	1,708	14,051	12,084	1,113	767
K.V.A. capacity..... (thousands)	129,773	2,310	7,425	6,824	3,092	851
Ratio of output to maximum capacity (p.c.)	15.4	14.5	21.6	20.2	4.1	10.3
Average K.W. hrs. per K.V.A.....	1,338	739	1,903	1,771	360	901

Tableau 15—Énergie électrique produite, 1926

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
TOUTES USINES					
616,431	74,251	141,759	885,903	9,413	Total K.W. heures produits (milliers).
5-10	-61	1-17	7-33	-08	Pourcentage du total pour le Canada.
-	-	-	-	-	K.W. heures produits par les usines non génératrices (milliers).
616,431	74,251	141,759	885,903	9,413	K.W. heures produits par les usines génératrices (milliers).
199,190	54,122	77,068	263,067	6,030	Capacité des usines génératrices en K.V.A.
40-7	15-7	21-0	40-2	17-8	Proportion de la production à la capacité (p.c.).
3,095	1,372	1,839	3,368	1,561	Moyenne des K.W. heures par K.V.A.
USINES GÉNÉRATRICES					
Usines Commerciales					
Total					
289,379	2,601	82,222	866,351	9,413	K.W. heures produits (milliers).
106,699	3,038	32,683	252,705	6,030	Capacité en K.V.A.
41-5	9-8	28-7	41-0	17-8	Proportion de la production à la capacité (p.c.).
2,712	856	2,516	3,298	1,561	Moyenne des heures K.W. par K.V.A.
Hydrauliques					
289,170	-	76,415	865,447	9,372	K.W. heures produits (milliers).
106,413	-	26,250	251,296	6,000	Capacité en K.V.A.
36-6	-	33-2	41-2	17-8	Proportion de la production à la capacité (p.c.).
2,717	-	2,911	3,444	1,562	Moyenne des K.W. heures par K.V.A.
À combustible					
209	2,601	5,807	904	41	K.W. heures produits (milliers).
286	3,038	6,433	1,409	30	Capacité en K.V.A.
8-4	9-8	10-3	7-3	15-6	Proportion de la production à la capacité (p.c.).
731	856	903	641	137	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
327,052	71,650	59,537	19,552	-	K.W. heures produits (milliers).
92,491	51,084	44,385	10,362	-	Capacité en K.V.A.
40-4	16-0	15-3	21-5	-	Proportion de la production à la capacité (p.c.).
3,536	1,403	1,341	1,887	-	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
325,217	-	1,115	17,144	-	K.W. heures produits (milliers).
90,725	-	850	8,682	-	Capacité en K.V.A.
40-9	-	15-0	22-5	-	Proportion de la production à la capacité (p.c.).
3,585	-	1,312	1,975	-	Moyenne des K.W. heures par K.V.A.
À combustible					
1,835	71,650	58,422	2,408	-	K.W. heures produits (milliers).
1,766	51,084	43,535	1,680	-	Capacité en K.V.A.
11-9	16-0	15-0	16-4	-	Proportion de la production à la capacité (p.c.).
1,039	1,403	1,342	1,433	-	Moyenne des K.W. heures par K.V.A.
Total, hydrauliques					
614,387	-	77,530	882,591	9,372	K.W. heures produits (milliers).
197,138	-	27,100	259,978	6,000	Capacité en K.V.A.
41-1	-	32-7	40-6	17-8	Proportion de la production à la capacité (p.c.).
3,117	-	2,861	3,395	1,562	Moyenne des K.W. heures par K.V.A.
Total, à combustible					
2,044	74,251	64,229	3,312	41	K.W. heures produits (milliers).
2,052	54,122	49,968	3,089	30	Capacité en K.V.A.
11-4	15-7	14-8	12-2	15-6	Proportion de la production à la capacité (p.c.).
996	1,372	1,285	1,072	120	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 16—Fuel, 1926—Tableau 16—Combustible, 1926

Province	Coal — Charbon		Coke — Coke		Gasoline and and Coal Oil — Gazoline et pétrole		Fuel Oil — Huile combustible	
	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur
	ton — tonnes	\$	ton — tonnes	\$	gal. — gal.	\$	gal. — gal.	\$
Canada.....	456,326	1,721,711	1	16	342,616	92,416	1,280,686	209,393
Prince Edward Island.....	2 930	28 297	—	—	—	—	52 992	8 665
Nova Scotia.....	44 178	206 403	—	—	—	—	46 537	7 143
New Brunswick.....	24 401	120,594	—	—	—	—	101,929	13,496
Quebec.....	4,761	32,379	—	—	—	—	12,700	2,600
Ontario.....	35,101	216,519	—	—	2,380	515	2,955	379
Manitoba.....	37,880	126,040	—	—	22,536	5,828	102,021	18,274
Saskatchewan.....	211,488	552,117	1	16	212,685	61,431	613,554	112,511
Alberta.....	184,210	390,618	—	—	82,464	21,359	80,666	14,042
British Columbia.....	11,377	48,744	—	—	22,551	3,283	266,640	29,515
Yukon.....	—	—	—	—	—	—	—	—

	Wood — Bois		Gas — Gaz		Other Fuel — Autre combustible	Total
	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur
	cord — corde	\$	1,000 cu. ft. — 1,000 pd cu.	\$	\$	\$
Canada.....	15,722	75,792	825,857	31,228	6,826	2,137,382
Prince Edward Island.....	100	500	—	—	—	37,462
Nova Scotia.....	937	4,513	—	—	2,960	221,024
New Brunswick.....	20	80	235	94	—	134,264
Quebec.....	60	240	—	—	3,598	38,817
Ontario.....	2,045	8,400	—	—	—	225,813
Manitoba.....	4,003	21,259	—	—	—	171,401
Saskatchewan.....	7,782	36,381	—	—	37	726,493
Alberta.....	400	800	825,622	31,134	—	457,953
British Columbia.....	537	1,601	—	—	231	83,374
Yukon.....	530	4,781	—	—	—	4,781

APPENDIX "A"

Monthly Output of Central Electric Stations in Canada

During 1927, with the co-operation of the large central electric stations, a monthly report of electric energy generated was inaugurated and the data were incorporated as one of the tables in the Monthly Review of Business Statistics. This pamphlet is issued about the 28th of each month and the output and export of electricity up to that of the previous month is shown.

The output of the stations reporting monthly was 96 per cent of total output in 1925 and 97 per cent in 1926, and consequently their monthly fluctuations may be considered as truly representing the conditions of the industry in Canada.

The growth in the output of electricity in a degree indicates the growth in manufacturing activities on account of such a large number of the manufacturing plants in Canada being operated by electricity. The lighting load is affected by the seasonal differences in the hours of daylight and also by the increasing use of both old and new customers. It is undoubtedly the fluctuations in the lighting load which depresses the consumption during the summer months although a steady growth is shown throughout the entire three year period, for which the data have been compiled, of approximately 10 per cent per annum. While this is not an extraordinary rate of increase, the output is

already high, being 1,300 kilowatt hours per capita, or after deducting what was exported, a production of 1,120 kilowatt hours per capita, and the rate of increase is considerably greater than that of the population and of many other industries.

These monthly reports make the data available promptly and make it possible to follow very closely month by month the production of electric energy and the growth of the central electric station industry.

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA

(A) MONTHLY OUTPUT

(Thousands of Kilowatt Hours)

Month	Totals for Canada			Generated by Water-Power					Generated by Fuel		
	Water	Fuel	Total	Maritime Pro- vinces	Quebec	Ontario	Prairie Pro- vinces	British Colum- bia	Prairie Pro- vinces	Other Pro- vinces	Total Exports
1925											
January	768,476	14,554	783,030	4,770	266,141	394,127	49,406	54,032	11,242	3,312	91,300
February	705,156	12,299	717,455	4,813	266,806	344,598	41,601	47,338	9,655	2,644	79,260
March	792,234	12,278	804,512	5,407	310,697	376,150	42,930	57,050	9,947	2,331	100,160
April	783,776	11,613	795,389	5,033	319,598	361,824	41,685	55,636	9,181	2,432	106,335
May	805,752	10,332	816,084	5,128	334,483	365,662	44,602	55,877	8,355	1,977	106,354
June	776,413	10,462	786,875	5,460	325,498	350,657	41,227	53,571	8,206	2,256	107,192
July	784,775	11,196	795,971	6,021	321,922	354,773	44,754	57,305	8,644	2,552	109,630
August	773,045	11,575	784,620	5,891	311,718	356,476	41,907	57,053	8,530	3,045	111,181
September	809,507	13,307	822,814	6,068	319,056	380,590	47,445	56,348	9,254	4,053	116,542
October	902,968	15,914	918,882	6,127	349,108	428,113	57,924	61,696	10,531	5,384	126,143
November	878,404	21,776	900,180	7,880	332,963	416,640	59,434	61,487	11,028	10,749	144,443
December	950,228	16,169	966,397	8,432	371,006	444,038	62,654	64,098	12,491	3,678	117,002
Total	9,739,734	161,475	9,899,209	71,630	3,328,996	4,573,648	575,569	681,491	117,064	44,412	1,285,512
1926											
January	936,034	15,416	951,450	6,955	352,194	441,911	61,692	73,282	12,130	3,286	113,026
February	856,485	14,045	870,530	7,398	322,443	402,113	55,525	69,006	10,234	3,811	98,086
March	939,537	12,739	952,276	9,333	358,318	435,397	60,318	76,171	10,576	2,163	110,911
April	891,041	11,004	902,045	6,949	348,958	415,790	53,630	65,714	9,306	1,698	115,696
May	949,946	10,993	960,939	8,048	399,832	426,439	49,558	66,069	9,270	1,723	119,398
June	959,913	11,862	971,775	6,542	407,028	430,835	47,627	67,881	9,076	2,786	127,351
July	952,711	13,458	966,169	6,969	411,974	418,930	44,655	70,183	9,580	3,878	132,225
August	969,469	12,705	982,174	6,150	406,278	435,292	46,017	75,732	9,618	3,087	142,860
September	992,793	15,383	1,008,176	4,504	404,016	456,039	55,183	73,051	10,228	5,155	146,678
October	1,085,228	15,185	1,100,413	5,288	452,722	486,050	64,698	76,470	11,748	3,437	144,160
November	1,096,629	15,434	1,112,063	9,571	473,552	466,988	70,246	76,272	13,100	2,334	128,041
December	1,127,185	18,538	1,145,723	8,910	470,317	492,857	74,095	81,006	14,823	3,715	127,568
Total	11,756,971	166,762	11,923,733	86,617	4,807,632	5,308,640	683,244	870,837	129,689	37,077	31,506,600
1927											
January	1,113,899	17,313	1,131,212	9,335	458,883	489,405	77,619	78,657	13,643	3,670	130,894
February	1,050,057	15,793	1,065,850	9,038	453,160	437,367	77,421	73,071	11,826	3,967	121,829
March	1,133,785	16,233	1,150,018	11,022	496,012	472,850	81,303	72,598	11,800	4,423	133,702
April	1,094,646	15,075	1,109,721	9,650	489,349	446,662	76,248	72,737	11,024	4,051	129,709
May	1,101,834	13,768	1,115,602	7,038	503,566	442,946	73,979	74,305	10,482	3,286	124,749
June	1,094,726	13,201	1,107,927	5,599	509,764	441,493	64,953	72,917	10,249	2,952	139,439
July	1,089,688	14,572	1,104,260	4,806	517,373	427,149	64,808	75,552	10,549	4,023	138,085
August	1,213,531	15,558	1,229,089	8,077	561,292	489,234	71,902	83,026	11,007	4,551	157,197
September	1,181,173	15,850	1,197,023	6,396	551,461	468,087	75,009	80,220	11,676	4,174	154,047
October	1,289,967	19,203	1,309,170	8,937	614,274	493,093	87,717	85,946	12,814	6,389	144,991
November	1,289,242	21,969	1,311,211	10,167	605,362	487,950	99,148	86,615	14,516	7,453	129,414
December	1,339,206	22,658	1,361,864	10,686	637,615	498,254	100,776	91,875	16,609	6,049	130,558
Total	13,991,754	201,183	14,192,937	100,751	6,398,111	5,594,490	950,883	947,519	146,195	54,988	1,632,614

(B) AVERAGE DAILY OUTPUT

1925											
January	24,790	469	25,259	154	8,585	12,714	1,594	1,743	363	106	2,945
February	25,184	439	25,623	172	9,529	12,307	1,486	1,691	345	94	2,831
March	25,656	396	25,952	174	10,022	12,134	1,385	1,841	321	75	3,231
April	26,126	387	26,513	168	10,653	12,062	1,389	1,854	306	81	3,541
May	25,992	333	26,325	165	10,790	11,796	1,439	1,802	270	63	3,434
June	25,880	349	26,229	182	10,850	11,688	1,374	1,786	273	76	3,573
July	25,315	361	25,676	194	10,385	11,444	1,444	1,848	279	82	3,536
August	24,937	373	25,310	190	10,056	11,499	1,352	1,840	275	98	3,586
September	26,983	444	27,427	202	10,635	12,686	1,582	1,878	308	136	3,885
October	29,128	513	29,641	198	11,262	13,810	1,868	1,990	340	173	4,069
November	29,280	726	30,006	263	11,099	13,888	1,980	2,050	368	358	3,815
December	30,653	521	31,174	272	11,968	14,324	2,021	2,068	402	119	3,774
Average for year	26,659	442	27,101	195	10,490	12,531	1,576	1,867	321	121	3,522

CENSUS OF INDUSTRY

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA—Concluded

(B) AVERAGE DAILY OUTPUT—Concluded

(Thousands of Kilowatt Hours)

Month	Totals for Canada			Generated by Water-Power					Generated by Fuel		Total Exports
	Water	Fuel	Total	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Prairie Provinces	Other Provinces	
1926											
January.....	30,194	497	30,691	224	11,361	14,255	1,990	2,364	391	106	3,646
February.....	30,589	502	31,091	284	11,516	14,361	1,983	2,464	365	137	3,503
March.....	30,308	411	30,719	301	11,558	14,046	1,946	2,457	341	70	3,578
April.....	29,701	367	30,068	231	11,632	13,860	1,788	2,190	310	57	3,857
May.....	30,643	355	30,998	260	12,898	13,756	1,599	2,130	299	56	3,852
June.....	31,997	395	32,392	218	13,567	14,361	1,588	2,263	303	92	4,245
July.....	30,733	434	31,167	225	13,289	13,514	1,441	2,264	309	125	4,265
August.....	31,273	410	31,683	199	13,105	14,042	1,484	2,443	310	100	4,608
September.....	33,093	512	33,605	150	13,467	15,202	1,839	2,435	341	171	4,889
October.....	35,007	490	35,497	170	14,604	15,679	2,087	2,467	379	111	4,650
November.....	36,554	515	37,069	319	15,785	15,566	2,342	2,542	437	78	4,268
December.....	36,361	598	36,959	287	15,172	15,899	2,390	2,613	478	120	4,115
Average for year	32,211	457	32,668	237	13,172	14,544	1,872	2,386	355	102	4,126
1927											
January.....	35,932	558	36,490	301	14,803	15,787	2,504	2,537	440	118	4,222
February.....	37,502	564	38,066	323	16,184	15,620	2,765	2,610	422	142	4,351
March.....	36,574	523	37,097	356	16,000	15,253	2,623	2,342	381	142	4,313
April.....	36,488	502	36,990	322	16,311	14,889	2,542	2,424	367	135	4,327
May.....	35,543	444	35,987	227	16,244	14,286	2,386	2,397	338	106	4,024
June.....	36,491	440	36,931	186	16,992	14,716	2,165	2,432	342	98	4,648
July.....	35,151	470	35,621	155	16,689	13,779	2,091	2,437	340	130	4,454
August.....	39,146	502	39,648	261	18,106	15,782	2,319	2,678	355	147	5,077
September.....	39,372	528	39,900	213	18,382	15,603	2,500	2,674	389	139	5,135
October.....	41,612	619	42,231	288	19,816	15,906	2,829	2,773	413	206	4,613
November.....	42,975	732	43,707	339	20,178	16,266	3,305	2,887	484	248	4,314
December.....	43,200	731	43,931	345	20,568	16,073	3,250	2,964	536	195	4,211
Average for year	38,333	551	38,884	276	17,529	15,327	2,605	2,596	401	150	4,473

APPENDIX "B"

Index Numbers of Rates for Electricity for Residence Lighting and Tables of Monthly Bills

A comprehensive report on index numbers and costs of electricity for domestic consumption was issued by the Dominion Bureau of Statistics in 1926 covering the years 1913, 1923, 1924, and 1925. In this bulletin the information is brought up to 1926.

Some corrections have been made in the data published in the first report based on supplemental information. The errors were due in the main to the omission of service charges by municipalities when making their reports.

On account of the complex nature of the rates and bills, the explanation of the methods employed in computing the bills and index numbers given in the first report, has been repeated in the present one.

The attached tables of index numbers of rates and monthly electric light bills include charges for lighting in private houses and for electricity used for operating electric appliances, such as irons, toasters, percolators, grills, heaters, vacuum cleaners, stoves, etc., when such electricity is sold at the same rate as the lighting current. These data do not indicate the general price of electricity which includes the price paid for power and commercial lighting. In most large stations the consumption of electric energy for power purposes is by far the greater part of the total output; current for power is sold at relatively much lower rates than lighting current. It is often this large consumption for power purposes that makes possible the relatively low rate charged for lighting current.

On account of the numerous and varied methods of charging for electricity, the most general method being on a sliding scale, the unit price decreasing

with increased consumption and a fixed service charge, it was impossible to make direct comparisons of rates. Consequently monthly bills were computed for different quantities of electricity and where service charges were made on floor area, on the number of rooms and on the number of lamps, or outlets, the following were used:—

Monthly Consumption	Rooms	Floor Areas	Lamps 16 c.p. or 25 watts
K.W. Hours—	No.	Sq. ft.	
15.....	6	1,000	8
20.....	7	1,400	12
40.....	8	1,600	16
60.....	8	1,600	20
180.....	10	2,000	25

A cooking load of 6 kilowatts for the consumption of 180 kilowatt hours was also used in computing service charges where applicable. In all cases where a discount for prompt payment was allowed such discount was made in computing the bills. Where no service charge was made and where consumption charges were on a flat rate, the bills were computed accordingly.

Monthly consumptions of 180 kilowatt hours would be too large for lighting alone in practically all cases and would include electricity used for cooking. The bills, however, were computed only at the lighting rate, both in municipalities where the same rate was charged for both services and in municipalities where different rates for lighting and cooking were in effect. The only recognition of the cooking service was to allow a range load of 6 kilowatts in those municipalities with a service charge for cooking on the load basis.

The consumptions of 15, 20, 40, 60 and 180 kilowatt hours per month were selected after careful consideration of all data available and they were selected not only because they were approximately the average consumptions of many of the municipalities, but because they covered a range that could be used for comparative purposes by a large majority of the municipalities.

The method of computing the index numbers for the municipalities was as follows. The bill in each case for 1913 was used as the base represented by 100 and the amounts of the bills for 1924, 1925, and 1926 were divided by the amount of the 1913 bill and multiplied by 100, the result being the respective index numbers for these years.

The index numbers for each province were weighted, to give correct values to changes occurring in the large cities where the greater part of electricity is consumed, by multiplying the index numbers of each municipality in each province by the respective number of customers for 1925 and dividing the sum of the products by the sum of the number of customers. This procedure made it necessary to select one of the five sets of index numbers for each municipality and the one selected was for the consumption quantity which was closest to the actual average consumption for that municipality.

The Dominion index numbers were computed by adding the products of customers and municipal index numbers, derived from computing the provincial index numbers for each year, as explained above, by the total number of customers of the municipalities included in this report.

There are a great many factors entering into the price of electricity and when comparing the prices of different municipalities or even of one municipality for different years, these factors must be given proper weight. These factors include costs of power houses, machinery, power dams, storage dams, flooded lands, water rights, transmission lines, right of way, substations, distribution lines, etc. operating expenses including losses of power through transformers, transmission lines and distribution lines, fuel costs, labour, maintenance, depreciation through both wear and obsolescence, interest charges, taxes, and

the nature of the market or load factor which governs the extent to which the equipment is utilized. The effect of each of these factors on the price charged for electricity for residence lighting varies with different plants and locations, and without an exhaustive analysis, it is impossible to assign even approximate values to the factors.

Five tables of monthly bills and index numbers have been compiled for each municipality, one table for each of the five representative consumptions mentioned above (15, 20, 40, 60 and 180 kilowatt hours). Against the name of every municipality there will be found in one of the five tables a capital "A". This is to indicate which of the five consumption quantities is most nearly typical of the actual average consumption for the municipality concerned. Thus every municipality where the average consumption was under 17.5 kilowatt hours has a capital "A" opposite its name in the table for a consumption of 15 kilowatt hours, and where the average consumption was between 17.5 and 30 kilowatt hours an "A" was placed in the table for 20 kilowatt hours, and so on.

The municipalities included in these tables are not all the cities, towns, etc. now supplied with electricity, nor all the cities and towns supplied with electricity in 1913, but with a few exceptions, they are all the municipalities for which comparable data should be secured for 1913 and the last three years, and the customers in these municipalities were over 75 per cent of the total number in Canada. In some municipalities the rate had changed from a flat rate in 1913 to a sliding scale in later years and for others the rate for 1913 were not known so that comparisons were not possible.

The weighted index number for Canada shows a reduction in the price of electricity for residence lighting of 31.3 per cent from 1913 to 1926. When it is considered that the prices of practically all commodities have been increased materially as have also the cost of services, such as transportation, telephone, professional services, etc., this reduction is outstanding. The index number of wholesale prices for 1926 was 156.2 based on 1913 prices. The commodity prices which have decreased are very few and include nickel, hides and rubber, etc. and many of these were affected by over-production, which was not the case with electricity. The power companies have had difficulty in keeping ahead of the demand and although in most municipalities there is only one company or organization selling electric energy, the prices on the whole have been reduced. The average price for the total amount of electricity sold in Canada for all purposes including both power and lighting for 1913 is not available, but the average cost to consumers including all service charges and line and transformer losses was .87 cent in 1919, .91 cent in 1920, 1.04 cents in 1921, .92 cent in 1922, .83 cent in 1923, .80 cent in 1924 and .78 cent in 1925. These averages are affected by large increases in production for power purposes and also an increased lighting load, but they are interesting and give an indication of the trend of prices of electricity.

It will be noted that the index numbers of the provinces follow very closely those of their respective large cities, due to the preponderance of the customers being in these cities. Thus the index number for Manitoba was lowered only a fraction of a point on account of no change having been made in the Winnipeg rates. The lighting rates in Winnipeg, however, were the lowest in Canada in 1913 and even in 1926 only a few other municipalities had rates that were lower. The greatest change during the 13 years, 1913 to 1926, was a drop of 39.4 points in the index number of Ontario which was 60.6 for 1926. The index number of Quebec at 63.4 was next lowest followed by those of British Columbia, New Brunswick, Alberta, Nova Scotia, Saskatchewan, Manitoba, Yukon Territory and Prince Edward Island in this order.

The effects of fixed service charges and meter rentals are more apparent in the bills for small consumptions than for 40 kilowatt hours consumption and upwards, and with sliding scales of rates, assist in diminishing the unit price

with increased consumption. These two factors explain some apparent inconsistencies when comparing bills of the various consumptions in one place with those of another. A large majority of the municipalities made a minimum charge and in some cases the minimum charge was greater than the computed bill for both 15 and 20 kilowatt hours. This is the explanation for the same charge for both of these consumptions being shown for a few municipalities.

Although these tables were compiled with great care, it is possible that through misinterpretation of schedules or incomplete or incorrect data being received, errors have been made in computing the bills and the Bureau would be grateful to have any errors called to its attention for correction in future issues.

INDEX NUMBERS (WEIGHTED) OF RESIDENCE ELECTRIC LIGHT RATES
NOMBRES-INDICES PONDÉRÉS DES TARIFS DE L'ÉCLAIRAGE ÉLECTRIQUE

Base 1913 rates=100—Prix de 1913=100

	1924	1925	1926
Canada	72.2	69.9	68.7
Prince Edward Island—Ile du Prince-Edouard.....	119.8	119.8	119.8
Nova Scotia—Nouvelle-Ecosse.....	83.6	83.6	83.5
New Brunswick—Nouveau-Brunswick.....	79.3	70.5	68.9
Quebec.....	71.0	64.4	63.4
Ontario.....	62.0	61.6	60.6
Manitoba.....	99.9	99.9	99.9
Saskatchewan.....	100.6	97.6	97.2
Alberta.....	83.0	82.9	79.0
British Columbia—Colombie Britannique.....	70.6	70.4	68.3
Yukon Territory—Territoire du Yukon.....	100.0	100.0	100.0

MONTHLY BILLS AND INDEX NUMBERS FOR ELECTRICITY FOR RESIDENCE LIGHTING
COMPTES MENSUELS ET NOMBRES-INDICES POUR ÉCLAIRAGE DOMESTIQUE

(Base—1913 Bills=100)—(Base comptes de 1913=100)

PRINCE EDWARD ISLAND—ILE DU PRINCE-EDOUARD

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres-indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES							
Charlottetown.....	+ 1 90	+ 2 20	+ 2 20	+ 2 20	115.8	115.8	115.8
Montague.....	\$ 1 37	\$ 1 97	\$ 1 97	\$ 1 97	143.8	143.8	143.8A
MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 20 KILOWATT-HEURES							
Charlottetown.....	2 45	2 85	2 85	2 85	116.3	116.3	116.3A
Montague.....	1 77	2 57	2 57	2 57	145.2	145.2	145.2
MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 40 KILOWATT-HEURES							
Charlottetown.....	4 65	5 45	5 45	5 45	117.1	117.1	117.1
Montague.....	3 37	4 97	4 97	4 97	147.5	147.5	147.5
MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 60 KILOWATT-HEURES							
Charlottetown.....	6 85	8 05	8 05	8 05	117.5	117.5	117.5
Montague.....	4 97	7 37	7 37	7 37	148.3	148.3	148.3
MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES							
Charlottetown.....	20 05	23 65	23 65	23 65	118.0	118.0	118.0
Montague.....	14 57	21 77	21 77	21 77	149.4	149.4	149.4

CENSUS OF INDUSTRY

NOVA SCOTIA—NOUVELLE-ECOSSE

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres-indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 15 KILOWATT-HEURES							
Amherst.....	+ 1 98	+ 1 98	+ 1 98	+ 1 98	100-0	100-0	100-0 A
Bedford.....	2 18	2 18	2 18	2 18	100-0	100-0	100-0
Bridgetown.....	2 36	2 36	2 36	2 36	100-0	100-0	100-0 A
Dartmouth.....	1 88	1 41	1 41	1 41	75-0	75-0	75-0 A
Digby.....	2 50	2 63	2 63	2 63	105-2	105-2	105-2
Dominion.....	1 75	1 75	1 75	1 75	100-0	100-0	100-0 A
Glace Bay.....	1 75	1 75	1 75	1 75	100-0	100-0	100-0 A
Halifax.....	1 58	1 05	10 5	1 05	65-5	65-5	65-5
Inverness.....	Flat rate 45c. per 25 watt lamp per month				100-0	100-0	100-0
Liverpool.....	Flat rate 25c. per lamp per month				100-0	100-0	100-0
Lunenburg.....	1 42	1 42	1 42	1 42	100-0	100-0	100-0 A
Middleton.....	2 33	2 33	2 33	2 10	100-0	100-0	90-1 A
New Waterford.....	1 75	1 50	1 50	1 50	85-7	85-7	85-7 A
Parrsboro.....	1 50	2 23	2 23	2 23	148-7	148-7	148-7 A
Springhill.....	1 50	1 50	1 50	1 50	100-0	100-0	100-0 A
Stellarton.....	2 55	1 35	1 35	1 35	60-0	60-0	60-0 A
Stewiacke.....	2 16	2 16	2 16	2 16	100-0	100-0	100-0 A
Sydney.....	1 95	1 95	1 95	1 95	100-0	100-0	100-0
Sydney Mines.....	1 85	2 16	2 16	2 16	116-8	116-8	116-8 A
Windsor.....	1 70	1 70	1 70	1 70	100-0	100-0	100-0
Yarmouth.....	2 02	2 02	2 02	2 02	100-0	100-0	100-0

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Amherst.....	2 56	2 56	2 56	2 56	100-0	100-0	100-0
Bedford.....	2 85	2 85	2 85	2 85	100-0	100-0	100-0 A
Bridgetown.....	3 06	3 06	3 06	3 06	100-0	100-0	100-0
Dartmouth.....	2 50	1 87	1 87	1 87	74-8	74-8	74-8
Digby.....	3 25	3 40	3 40	3 40	104-6	104-6	104-6 A
Dominion.....	2 25	2 25	2 25	2 25	100-0	100-0	100-0
Glace Bay.....	2 25	2 34	2 34	2 34	104-0	104-0	104-0
Halifax.....	2 10	1 42	1 42	1 42	67-6	67-6	67-6
Lunenburg.....	1 90	1 90	1 90	1 90	100-0	100-0	100-0
Middleton.....	3 08	3 08	3 08	2 78	100-0	100-0	90-3
New Waterford.....	2 25	2 00	2 00	2 00	88-9	88-9	88-9
Parrsboro.....	2 00	2 97	2 97	2 97	148-5	148-5	148-5
Springhill.....	2 00	2 00	2 00	2 00	100-0	100-0	100-0
Stellarton.....	3 30	1 82	1 82	1 82	55-2	55-2	55-2
Stewiacke.....	2 88	2 88	2 88	2 88	100-0	100-0	100-0
Sydney.....	2 52	2 52	2 52	2 52	100-0	100-0	100-0 A
Sydney Mines.....	2 40	2 83	2 88	2 88	120-0	120-0	120-0
Windsor.....	2 25	2 25	2 25	2 25	100-0	100-0	100-0 A
Yarmouth.....	2 70	2 70	2 70	2 70	100-0	100-0	100-0 A

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Amherst.....	4 90	4 90	4 90	4 90	100-0	100-0	100-0
Bedford.....	5 40	5 40	5 40	5 40	100-0	100-0	100-0
Bridgetown.....	6 12	6 12	6 12	6 12	100-0	100-0	100-0
Dartmouth.....	5 00	3 75	3 75	3 75	75-0	75-0	75-0
Digby.....	6 25	6 80	6 80	6 80	108-8	108-8	108-8
Dominion.....	4 25	4 25	4 25	4 25	100-0	100-0	100-0
Glace Bay.....	4 25	4 68	4 68	4 68	110-1	110-1	110-1
Halifax.....	4 20	2 48	2 48	2 48	59-0	59-0	59-0 A
Lunenburg.....	3 80	3 80	3 80	3 80	100-0	100-0	100-0
Middleton.....	6 08	6 08	6 08	5 47	100-0	100-0	90-0
New Waterford.....	4 25	4 00	4 00	4 00	94-1	94-1	94-1
Parrsboro.....	4 00	5 94	5 94	5 94	148-5	148-5	148-5
Springhill.....	4 00	4 00	4 00	4 00	100-0	100-0	100-0
Stellarton.....	6 30	3 28	3 28	3 28	52-1	52-1	52-1
Stewiacke.....	5 76	5 76	5 76	5 76	100-0	100-0	100-0
Sydney.....	4 80	4 80	4 80	4 80	100-0	100-0	100-0
Sydney Mines.....	4 60	5 76	5 76	5 76	125-2	125-2	125-2
Windsor.....	4 50	4 50	4 50	4 50	100-0	100-0	100-0
Yarmouth.....	5 40	5 40	5 40	5 40	100-0	100-0	100-0

Legend:—

- * Supplied by Municipal Fuel Plant.
- † Supplied by Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

Légende:—

- Fourni par usine municipale à combustible.
- Fourni par usine municipale hydraulique.
- Fourni par usine commerciale, à combustible.
- Fourni par usine commerciale hydraulique.

NOVA SCOTIA—Continued—NOUVELE-ECOSSE—suite

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 60 KILOWATT-HEURES

Amherst.....	7 06	7 06	7 06	7 06	100-0	100-0	100-0
Bedford.....	7 65	7 65	7 65	7 65	100-0	100-0	100-0
Bridgetown.....	9 18	9 18	9 18	9 18	100-0	100-0	100-0
Dartmouth.....	7 12	5 62	5 62	5 62	78-9	78-9	78-9
Digby.....	9 25	9 60	9 60	9 60	103-8	103-8	103-8
Dominion.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Glace Bay.....	6 25	7 02	7 02	7 02	112-3	112-3	112-3
Halifax.....	6 30	3 18	3 18	3 18	50-5	50-5	50-5
Lunenburg.....	5 70	5 70	5 70	5 70	100-0	100-0	100-0
Middleton.....	9 08	9 08	9 08	8 17	100-0	100-0	90-0
New Waterford.....	6 25	6 00	6 00	6 00	96-0	96-0	96-0
Parrsboro.....	6 00	8 91	8 91	8 91	148-5	148-5	148-5
Springhill.....	6 00	6 00	6 00	6 00	100-0	100-0	100-0
Stellarton.....	9 30	4 20	4 20	4 20	45-2	45-2	45-2
Stewiacke.....	8 64	8 64	8 64	8 64	100-0	100-0	100-0
Sydney.....	7 08	7 08	7 08	7 08	100-0	100-0	100-0
Sydney Mines.....	6 80	8 55	8 55	8 55	125-7	125-7	125-7
Windsor.....	6 75	6 75	6 75	6 75	100-0	100-0	100-0
Yarmouth.....	8 10	8 10	8 10	8 10	100-0	100-0	100-0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES

Amherst.....	18 94	18 94	18 94	18 94	100-0	100-0	100-0
Bedford.....	19 05	19 05	19 05	19 05	100-0	100-0	100-0
Bridgetown.....	24 30	24 30	24 30	24 30	100-0	100-0	100-0
Dartmouth.....	20 25	16 87	16 87	16 87	83-3	83-3	83-3
Digby.....	27 25	28 80	28 80	28 80	105-7	105-7	105-7
Dominion.....	18 25	18 25	18 25	18 25	100-0	100-0	100-0
Glace Bay.....	18 25	21 06	21 06	21 06	115-4	115-4	115-4
Halifax.....	18 90	6 60	6 60	6 60	34-9	34-9	34-9
Lunenburg.....	16 20	16 20	16 20	16 20	100-0	100-0	100-0
Middleton.....	27 08	27 08	27 08	24 38	100-0	100-0	90-0
New Waterford.....	18 25	18 00	18 00	18 00	98-6	98-6	98-6
Parrsboro.....	18 00	26 73	26 73	26 73	148-5	148-5	148-5
Springhill.....	18 00	18 00	18 00	18 00	100-0	100-0	100-0
Stellarton.....	24 30	8 40	8 40	8 40	34-6	34-6	34-6
Stewiacke.....	25 92	25 92	25 92	25 92	100-0	100-0	100-0
Sydney.....	19 66	19 66	19 66	19 66	100-0	100-0	100-0
Sydney Mines.....	20 00	24 48	24 48	24 48	122-4	122-4	122-4
Windsor.....	20 25	20 25	20 25	20 25	100-0	100-0	100-0
Yarmouth.....	24 30	24 30	24 30	24 30	100-0	100-0	100-0

NEW BRUNSWICK—NOUVEAU-BRUNSWICK

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES

Aroostook Falls.....	\$ 1 35	\$ 1 35	\$ 1 35	\$ 1 35	100-0	100-0	100-0 A
Andover and Perth.....	\$ 1 35	\$ 1 35	\$ 1 35	\$ 1 35	100-0	100-0	100-0 A
Bathurst.....	* 2 55	* 2 28	* 2 28	* 1 71	89-4	89-4	67-1 A
Campbellton.....	* 1 50	* 1 50	* 1 20	* 1 20	100-0	80-0	80-0 A
Chatham.....	* 1 80	* 2 02	* 2 02	* 1 80	112-2	112-2	100-0 A
Dorchester.....	† 1 84	† 2 50	† 2 50	† 2 50	135-8	135-8	135-8 A
Edmundston.....	† 1 59	† 1 59	† 1 59	† 1 59	100-0	100-0	100-0 A
Fredericton.....	† 2 10	† 2 10	† 1 50	† 1 50	100-0	71-4	71-4 A
Moncton.....	† 1 57	† 1 43	† 1 20	† 1 20	75-3	75-3	75-3 A
Newcastle.....	† 2 40	† 1 88	† 1 88	† 1 58	139-0	139-0	139-0 A
Sackville.....	† 1 80	† 2 50	† 2 50	† 2 50	113-8	113-8	113-8 A
Shediac.....	† 1 96	† 2 23	† 2 23	† 2 23	39-1	39-1	39-1
St. John.....	† 2 25	† 88	† 88	† 88			

Legend:—

* Supplied by Municipal Fuel Plant.

† Supplied by Municipal Water Power Plant.

‡ Supplied by Commercial Fuel Plant.

§ Supplied by Commercial Water Power Plant.

Légende:—

Fourni par l'usine municipale à combustible.

Fourni par l'usine municipale hydraulique.

Fourni par l'usine commerciale à combustible.

Fourni par l'usine commerciale hydraulique.

NEW BRUNSWICK—Concluded—NOUVEAU-BRUNSWICK—fin

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Aroostook Falls.....	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Andover and Perth.....	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Bathurst.....	3 15	2 80	2 80	2 21	88-9	88-9	70-2
Campbellton.....	2 00	2 00	1 60	1 60	100-0	80-0	80-0
Chatham.....	2 40	2 70	2 70	2 40	112-5	112-5	100-0
Dorchester.....	2 38	3 25	3 25	3 25	136-6	136-6	136-6
Edmundston.....	2 07	2 07	2 07	2 07	100-0	100-0	100-0
Fredericton.....	2 70	2 70	2 00	2 00	100-0	74-1	74-1 A
Moncton.....	2 09	1 90	1 60	1 60	90-9	76-6	76-6 A
Newcastle.....	3 20	2 48	2 48	2 48	77-5	77-5	77-5
Sackville.....	2 40	3 25	3 25	3 25	135-4	135-4	135-4
Shediac.....	2 56	2 90	2 90	2 90	113-3	113-3	113-3
St. John.....	3 00	99	99	99	33-0	33-0	33-0 A

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Aroostook Falls.....	3 60	3 60	3 60	3 60	100-0	100-0	100-0
Andover and Perth.....	3 60	3 60	3 60	3 60	100-0	100-0	100-0
Bathurst.....	5 55	4 89	4 89	4 19	88-1	88-1	75-5
Campbellton.....	4 00	4 00	2 90	2 90	100-0	72-5	72-5
Chatham.....	4 80	5 40	5 40	4 80	112-5	112-5	100-0
Dorchester.....	4 54	6 24	6 24	6 24	137-4	137-4	137-4
Edmundston.....	3 99	3 99	3 99	3 99	100-0	100-0	100-0
Fredericton.....	5 10	5 10	3 90	3 90	100-0	76-5	76-5
Moncton.....	4 18	3 80	3 10	3 10	90-9	74-2	74-2
Newcastle.....	6 40	4 88	4 88	4 88	76-3	76-3	76-3
Sackville.....	4 80	6 25	6 25	6 25	130-2	130-2	130-2 A
Shediac.....	4 96	5 60	5 60	5 60	112-9	112-9	112-9
St. John.....	6 00	1 44	1 44	1 44	24-0	24-0	24-0

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Aroostook Falls.....	5 40	5 31	5 31	5 31	98-3	98-3	98-3
Andover and Perth.....	5 40	5 40	5 40	4 80	100-0	100-0	88-9
Bathurst.....	7 95	6 79	6 79	5 99	85-4	85-4	75-3
Campbellton.....	6 00	6 00	3 90	3 90	100-0	38-3	38-3
Chatham.....	7 20	8 10	8 10	7 20	112-5	112-5	100-0
Dorchester.....	6 70	9 25	9 25	9 25	138-1	138-1	138-1
Edmundston.....	5 97	5 97	5 97	5 97	100-0	100-0	100-0
Fredericton.....	7 50	7 50	5 70	5 70	100-0	76-0	76-0
Moncton.....	6 27	5 70	4 50	4 50	90-9	71-8	71-8
Newcastle.....	9 60	7 04	7 04	7 04	73-3	73-3	73-3
Sackville.....	7 20	9 25	9 25	9 25	128-4	128-4	128-4
Shediac.....	7 36	8 30	8 30	8 30	112-8	112-8	112-8
St. John.....	9 00	1 89	1 89	1 89	21-0	21-0	21-0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 180 KILOWATT-HEURES

Aroostook Falls.....	16 20	14 31	14 31	14 31	88-3	88-3	88-3
Andover and Perth.....	16 20	16 20	16 20	12 60	100-0	100-0	77-8
Bathurst.....	22 35	17 05	17 05	15 71	76-3	76-3	70-3
Campbellton.....	18 00	18 00	6 90	6 90	100-0	38-3	38-3
Chatham.....	21 60	24 30	24 30	21 60	112-5	112-5	100-0
Dorchester.....	19 66	27 25	27 25	27 25	138-6	138-6	138-6
Edmundston.....	16 45	16 45	16 45	16 45	100-0	100-0	100-0
Fredericton.....	21 90	21 90	15 70	15 70	100-0	71-7	71-7
Moncton.....	17 82	16 34	12 10	12 10	91-7	67-9	67-9
Newcastle.....	28 80	17 28	17 28	17 28	60-0	60-0	60-0
Sackville.....	21 60	27 25	27 25	27 25	126-1	126-1	126-1
Shediac.....	21 76	24 50	24 50	24 50	112-6	112-6	112-6
St. John.....	27 00	4 59	4 59	4 59	17-0	17-0	17-0

QUEBEC

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT HEURES

	\$Flat rat	e-1st lam 3rd "	p 50c.; 2nd 25c.; 4th 16 $\frac{1}{2}$ c.	33 $\frac{1}{2}$ c. 16 $\frac{1}{2}$ c.	100-0	100-0	100-0
Baie St. Paul.....	Each ad ditional la mp-8 $\frac{1}{2}$ c.						
Buckingham.....	\$Flat rat	e-25c. per	40 watt la	mp.	100-0	100-0	100-0
Campbell's Bay.....	\$ 2 40	2 40	\$ 2 40	† 2 40	100-0	100-0	100-0 A
Coaticook.....	\$ 1 48	81	† 81	† 81	54-7	54-7	54-7
Hull.....	\$ 1 08	54	† 54	† 54	50-0	50-0	50-0
Joliette.....	† 1 40	1 40	† 1 40	† 1 40	100-0	100-0	100-0
Lachine.....	† 1 12	† 90	† 84	† 84	80-4	75-0	75-0
La Tuque.....	Flat rate 5	0c. per 100	watt lamp	per mont h.	100-0	100-0	100-0
Levis.....	\$ 1 80	98	† 98	† 90	54-4	54-4	50-0
Megantic.....	† 2 02	† 1 71	† 1 71	† 1 71	84-7	84-7	84-7 A
Montmagny.....	† 1 75	† 1 00	† 1 00	† 1 00	57-1	57-1	57-1
Montreal.....	† 1 11	† 75	† 67	† 67	67-6	60-4	60-4
Murray Bay.....	† 2 25	† 1 80	† 1 80	† 1 80	80-0	80-0	80-0
Point Gatineau.....	† Flat rat	e-35c. per	40 watt la	mp.	100-0	100-0	100-0
Quebec.....	† 1 05	† 1 05	† 98	† 90	100-0	93-3	85-7
Rawdon.....	† 1 70	† 1 70	† 1 70	† 1 70	100-0	100-0	100-0 A
Rivière du Loup.....	† 1 75	† 1 75	† 1 75	† 1 75	100-0	100-0	100-0
Sherbrooke.....	† 85	† 81	† 81	† 81	95-3	95-3	95-3
Sorel.....	† 1 26	† 1 05	† 1 05	† 1 05	83-3	83-3	83-3 A
St. Agathe des Monts.....	† 1 31	† 1 31	† 1 31	† 1 31	100-0	100-0	100-0
St. Lambert.....	† 1 20	† 90	† 83	† 83	75-0	69-2	69-2
St. Remi.....	† 2 50	† 2 50	† 2 50	† 2 50	100-0	100-0	100-0
Sutton.....	† 1 20	† 1 20	† 1 20	† 1 20	100-0	100-0	100-0
Thedford Mines.....	† 2 05	† 1 05	† 1 00	† 1 00	51-2	48-8	48-8 A
Three Rivers.....	† 1 35	† 96	† 75	† 75	71-1	55-6	55-6
Valleyfield.....	† 89	† 89	† 89	† 89	100-0	100-0	100-0 A
Westmount.....	† 1 05	† 75	† 68	† 68	71-4	64-8	64-8

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 20 KILOWATT-HEURES

	3 15	3 15	3 15	3 15	100-0	100-0	100-0
Campbell's Bay.....	1 75	1 08	1 08	1 08	61-7	61-7	61-7
Coaticook.....	1 44	74	74	74	51-4	51-4	51-4
Hull.....	1 80	1 80	1 80	1 80	100-0	100-0	100-0
Joliette.....	1 47	1 17	1 08	1 08	79-6	73-5	73-5
Lachine.....	2 40	1 30	1 30	1 20	54-2	54-2	50-0 A
Levis.....	2 70	2 25	2 25	2 25	83-3	83-3	83-3
Megantic.....	2 25	1 25	1 25	1 25	55-6	55-6	55-6 A
Montmagny.....	1 43	95	85	85	60-4	59-4	59-4
Montreal.....	3 00	2 40	2 40	2 40	80-0	80-0	80-0
Murray Bay.....	1 40	1 40	1 30	1 20	100-0	92-9	85-7 A
Quebec.....	2 20	2 20	2 20	2 20	100-0	100-0	100-0
Rawdon.....	2 25	2 25	2 25	2 25	100-0	100-0	100-0 A
Rivière du Loup.....	1 14	1 08	1 08	1 08	94-7	94-7	94-7 A
Sherbrooke.....	1 62	1 40	1 40	1 40	86-4	86-4	86-4
Sorel.....	1 66	1 66	1 66	1 66	100-0	100-0	100-0 A
St. Agathe des Monts.....	1 55	1 15	1 05	1 05	74-2	67-7	67-7
St. Lambert.....	3 25	3 25	3 25	3 25	100-0	100-0	100-0 A
St. Remi.....	1 60	1 60	1 60	1 60	100-0	100-0	100-0
Sutton.....	2 65	1 40	1 33	1 33	52-8	50-2	50-2
Thedford Mines.....	1 80	1 28	1 00	1 00	71-1	55-6	55-6 A
Three Rivers.....	1 15	1 15	1 15	1 15	100-0	100-0	100-0
Valleyfield.....	1 35	95	85	85	70-4	63-0	63-0
Westmount.....							

Legend:—

* Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

CENSUS OF INDUSTRY

QUEBEC—Concluded—QUEBEC—fin

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Campbell's Bay.....	6 15	6 15	6 15	6 15	100-0	100-0	100-0
Coaticook.....	2 83	2 16	2 16	2 16	76-3	76-3	76-3 A
Hull.....	2 88	1 15	1 15	1 15	39-9	39-9	39-9 A
Joliette.....	3 40	3 40	3 40	3 40	100-0	100-0	100-0
Lachine.....	2 87	2 25	2 07	2 07	78-4	72-1	72-1 A
Levis.....	4 80	2 60	2 60	2 40	54-2	54-2	50-0
Megantic.....	5 40	4 41	4 41	4 41	81-7	81-7	81-7
Montmagny.....	4 25	1 75	1 75	1 75	41-2	41-2	41-2
Montreal.....	2 71	1 75	1 55	1 55	64-6	57-2	57-2
Murray Bay.....	6 00	4 80	4 80	4 80	80-0	80-0	80-0
Quebec.....	2 80	2 80	2 61	2 40	100-0	93-2	85-7
Rawdon.....	4 20	3 78	3 78	3 78	90-0	90-0	90-0
Riviere du Loup.....	4 25	4 25	4 25	4 25	100-0	100-0	100-0
Sherbrooke.....	2 28	2 16	2 16	2 16	94-7	94-7	94-7
Sorel.....	2 52	2 80	2 80	2 80	111-1	111-1	111-1
St. Agathe des Monts.....	3 09	3 09	3 09	3 09	100-0	100-0	100-0
St. Lambert.....	2 95	2 15	1 95	1 95	72-9	66-1	66-1 A
St. Remi.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Sutton.....	3 04	3 04	3 04	3 04	100-0	100-0	100-0 A
Thedford Mines.....	5 05	2 80	2 66	2 66	55-4	52-7	52-7
Three Rivers.....	3 60	2 56	2 00	2 00	71-1	55-6	55-6
Valleyfield.....	2 20	2 20	2 20	2 20	100-0	100-0	100-0
Westmount.....	2 55	1 75	1 55	1 55	68-6	60-8	60-8

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Campbell's Bay.....	9 15	9 15	9 15	9 15	100-0	100-0	100-0
Coaticook.....	3 91	3 24	3 24	3 24	82-9	82-9	82-9
Hull.....	4 32	1 40	1 40	1 40	32-4	32-4	32-4
Joliette.....	4 92	4 92	4 92	4 92	100-0	100-0	100-0 A
Lachine.....	4 27	3 33	3 06	3 06	78-0	71-7	71-7
Levis.....	7 20	3 90	3 90	3 60	54-2	54-2	50-0
Megantic.....	8 10	6 57	6 57	6 57	81-1	81-1	81-1
Montmagny.....	6 25	2 25	2 25	2 25	36-0	36-0	36-0
Montreal.....	3 99	2 55	2 25	2 25	63-9	56-4	56-4 A
Murray Bay.....	9 00	7 20	7 20	7 20	80-0	80-0	80-0 A
Quebec.....	4 20	4 20	3 91	3 60	100-0	93-1	85-7
Rawdon.....	6 20	5 42	5 42	5 42	87-4	87-4	87-4
Riviere du Loup.....	6 25	6 25	6 25	6 25	100-0	100-0	100-0
Sherbrooke.....	3 42	3 24	3 24	3 24	94-7	94-7	94-7
Sorel.....	3 24	4 00	4 00	4 00	123-5	123-5	123-5
St. Agathe des Monts.....	4 51	4 51	4 51	4 51	100-0	100-0	100-0
St. Lambert.....	4 35	3 15	2 85	2 85	72-4	65-5	65-5
St. Remi.....	9 25	9 25	9 25	9 25	100-0	100-0	100-0
Sutton.....	4 56	4 56	4 56	4 56	100-0	100-0	100-0
Thedford Mines.....	7 45	4 20	3 99	3 99	56-4	53-6	53-6
Three Rivers.....	5 40	3 84	3 00	3 00	71-1	55-6	55-6
Valleyfield.....	3 25	3 25	3 25	3 25	100-0	100-0	100-0
Westmount.....	3 75	2 55	2 25	2 25	68-0	60-0	60-0 A

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 180 KILOWATT-HEURES

Campbell's Bay.....	27 15	27 15	27 15	27 15	100-0	100-0	100-0
Coaticook.....	10 39	9 72	9 72	9 72	93-6	93-6	93-6
Hull.....	12 96	2 70	2 70	2 70	20-8	20-8	20-8
Joliette.....	12 68	12 68	12 68	12 68	100-0	100-0	100-0
Lachine.....	12 74	9 90	8 09	8 09	77-7	63-5	63-5
Levis.....	21 60	11 70	11 70	10 80	54-2	54-2	50-0
Megantic.....	21 60	19 53	19 53	19 53	90-4	90-4	90-4
Montmagny.....	18 25	5 25	5 25	5 25	28-8	28-8	28-8
Montreal.....	11 67	7 35	6 45	6 45	63-0	55-3	55-3
Murray Bay.....	27 00	17 28	17 28	17 28	64-0	64-0	64-0
Quebec.....	12 60	11 66	11 75	10 80	92-5	93-3	85-7
Rawdon.....	18 20	14 56	14 56	14 56	80-0	80-0	80-0
Riviere du Loup.....	18 25	18 25	18 25	18 25	100-0	100-0	100-0
Sherbrooke.....	10 26	9 72	9 72	9 72	94-7	94-7	94-7
Sorel.....	7 56	10 00	10 00	10 00	132-3	132-3	132-3
St. Agathe des Monts.....	13 06	13 06	13 06	13 06	100-0	100-0	100-0
St. Lambert.....	12 75	9 15	8 25	8 25	71-8	64-7	64-7
St. Remi.....	27 25	27 25	27 25	27 25	100-0	100-0	100-0
Sutton.....	11 52	11 52	11 52	11 52	100-0	100-0	100-0
Thedford Mines.....	21 85	12 80	11 97	11 97	57-7	54-8	54-8
Three Rivers.....	16 20	11 52	9 00	9 00	71-1	55-6	55-6
Valleyfield.....	9 55	9 55	9 55	9 55	100-0	100-0	100-0
Westmount.....	10 95	7 35	6 45	6 45	67-1	58-9	58-9

CENTRAL ELECTRIC STATIONS

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ONTARIO

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES

Alliston.....	*† 1 80	† 1 00	† 1 00	† 1 38	55-6	55-6	76-7
Ancaster.....	† 84	† 97	† 84	† 84	115-5	100-0	100-0
Arthur.....	† 1 75	† 2 00	† 2 00	† 2 00	114-3	114-3	114-3
Arkona.....	† 1 75	† 2 50	† 2 50	† 2 50	142-8	142-8	142-8 A
Aurora.....	† 75	† 50	† 50	† 50	66-6	66-6	66-6
Aylmer.....	† 1 57	† 75	† 75	† 75	47-8	47-8	47-8
Baden.....	† 90	† 75	† 75	† 75	83-3	83-3	83-3
Bancroft.....	\$Flat rate 30c. per 15 W. lamp	† 40 watt lamp	† 40 watt lamp	† 40 W. lamp	100-0	100-0	100-0
Barrie.....	† 1 05	† 75	† 75	† 75	71-4	71-4	71-4
Beachville.....	† 1 03	† 75	† 75	† 75	72-8	72-8	72-8
Beeton.....	† 1 80	† 1 50	† 1 50	† 1 50	83-3	83-3	83-3
Belleville.....	† 1 05	† 75	† 75	† 75	71-4	71-4	71-4
Blenheim.....	† 1 62	† 75	† 75	† 75	46-3	46-3	46-3
Blind River.....	\$32c. per 25 W. lamp	† 32c. per 40 W. lamp	† 32c. per 40 W. lamp	† 40 W. lamp	60-0	60-0	60-0
Bolton.....	† 1 75	† 1 00	† 1 00	† 1 00	57-1	57-1	57-1
Bowmanville.....	† 1 20	† 75	† 75	† 75	62-5	62-5	62-5
Brampton.....	† 77	† 75	† 75	† 75	97-4	97-4	97-4
Brighton.....	† 1 20	† 75	† 75	† 75	62-5	62-5	62-5
Brookville.....	† 1 50	† 1 05	† 75	† 75	70-0	50-0	50-0
Brussels.....	† 2 50	† 2 50	† 2 50	† 2 00	100-0	100-0	80-0
Burks Falls.....	† 1 40	† 1 60	† 1 60	† 1 60	114-3	114-3	114-3
Cardinal.....	† 1 30	† 1 25	† 1 25	† 1 25	96-1	96-1	96-1
Carleton Place.....	† 98	† 1 00	† 1 00	† 1 00	102-0	102-0	102-0
Chatham.....	† 1 30	† 75	† 75	† 75	57-7	57-7	57-7
Clinton.....	† 1 75	† 75	† 75	† 75	42-9	42-9	42-9
Cochrane.....	† 97	† 1 75	† 1 75	† 1 15	100-0	100-0	65-7 A
Collingwood.....	† 85	† 75	† 75	† 75	77-3	77-3	77-3
Cobourg.....	† 1 45	† 81	† 81	† 81	95-3	95-3	95-3
Cornwall.....	† 1 05	† 81	† 81	† 75	77-1	77-1	71-4
Delhi.....	† 1 45	† 1 45	† 1 45	† 1 45	100-0	100-0	100-0
Deseronto.....	† 1 20	† 1 08	† 1 08	† 1 08	90-0	90-0	90-0 A
Dundas.....	† 84	† 75	† 75	† 75	89-3	89-3	89-3
Dundalk.....	† 2 35	† 1 00	† 1 00	† 1 00	42-6	42-6	42-6
Dunnville.....	† 1 15	† 75	† 75	† 75	65-2	65-2	65-2
Elk Lake.....	† 1 16	† 1 75	† 1 75	† 1 75	150-8	150-8	150-8 A
Elmvale.....	† 1 57	† 75	† 75	† 75	47-8	47-8	47-8
Exeter.....	† 1 75	† 75	† 75	† 75	42-9	42-9	42-9
Fergus.....	† 1 75	† 75	† 75	† 75	42-9	42-9	42-9
Forest.....	† 1 75	† 1 00	† 1 00	† 1 00	57-1	57-1	57-1
Fort Erie.....	† 1 08	† 1 00	† 1 00	† 1 00	92-6	92-6	92-6
Fort William.....	† 67	† 50	† 50	† 50	74-6	74-6	74-6
Gananoque.....	† 1 07	† 96	† 96	† 96	89-7	89-7	89-7
Georgetown.....	† 89	† 75	† 75	† 75	84-2	84-2	84-2
Galt.....	† 75	† 75	† 75	† 75	100-0	100-0	100-0
Goderich.....	† 89	† 70	† 70	† 70	78-6	78-6	78-6
Grand Valley.....	† 1 75	† 1 25	† 1 25	† 1 25	71-4	71-4	71-4
Guelph.....	† 80	† 75	† 75	† 75	93-7	93-7	93-7
Hagersville.....	† 97	† 75	† 75	† 75	77-3	77-3	77-3
Hamilton.....	\$† 76	† 75	† 75	† 75	98-7	98-7	98-7
Hastings.....	† 1 75	† 75	† 75	† 90	42-8	42-8	51-4
Hawkesbury.....	† 1 40	† 1 58	† 1 58	† 1 58	112-8	112-8	112-8
Hensall.....	† 2 05	† 1 25	† 1 25	† 1 25	60-9	60-9	60-9 A
Hespeler.....	† 1 48	† 1 00	† 1 00	† 75	67-5	67-5	60-7
Ingersoll.....	† 97	† 75	† 75	† 75	77-3	77-3	77-3
Inglewood.....	\$Flat rate 25c. per 60 W. lamp	† 12c. per 100-0	† 100-0	† 100-0	100-0	100-0	100-0
Kingston.....	* 1 50	† 75	† 75	† 75	50-0	50-0	50-0
Kitchener.....	† 84	† 75	† 75	† 75	89-3	89-3	89-3
Lambeth.....	† 1 13	† 1 25	† 1 25	† 1 25	110-6	110-6	110-6
London.....	† 75	† 75	† 75	† 75	100-0	100-0	100-0
Listowel.....	† 1 50	† 75	† 75	† 75	50-0	50-0	50-0
L'Orignal.....	† 1 70	† 1 70	† 1 70	† 1 70	100-0	100-0	100-0
Lynden.....	† 1 18	† 1 25	† 1 25	† 1 25	105-9	105-9	105-9
Madoc.....	\$Flat rate 4c. per watt lamp rating	† 1 00	† 1 00	† 1 00	100-0	100-0	100-0
Markdale.....	† 1 50	† 1 00	† 1 00	† 1 00	66-6	66-6	66-6
Mattawa.....	\$Flat rate 25c. per 40 W. lamp	† 75	† 75	† 75	93-8	93-8	93-8
Midland.....	† 80	† 75	† 1 00	† 1 00	83-3	83-3	83-3
Millbrook.....	† 1 20	† 1 00	† 75	† 75	83-3	83-3	83-3
Mimico.....	† 90	† 75	† 1 00	† 1 00	66-6	66-6	66-6
Mount Forest.....	† 1 50	† 1 00	† 1 00	† 1 00	100-0	100-0	100-0
Morrisburg.....	\$Flat rate \$1.00 per 60 C.P. light per year	† 81	† 81	† 81	67-5	67-5	67-5 A
Napanee.....	† 1 20	† 81	† 81	† 81	100-0	100-0	100-0 A
Neustadt.....	† 1 50	† 1 50	† 1 50	† 50	30-3	30-3	30-3
Newmarket.....	† 1 65	† 50	† 50	† 50			

Legend:—

- * Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

- Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

CENSUS OF INDUSTRY

ONTARIO—Continued—ONTARIO—suite

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES							
Newburg.....	\$ 1 80	† 1 50	† 1 50	† 1 50	83.3	83.3	83.3
New Hamburg.....	90	75	75	75	83.3	83.3	83.3
Niagara Falls.....	60	75	75	75	125.0	125.0	125.0
Norwich.....	90	75	75	75	83.3	83.3	83.3
Orillia.....	79	51	51	51	64.5	64.5	64.5
Orono.....	1 20	† 1 02	† 1 02	† 1 02	85.0	85.0	85.0 A
Oshawa.....	76	67	67	67	55.8	55.8	55.8
Ottawa.....	\$ 1 08	\$ 54	\$ 54	\$ 54	71.1	71.1	71.1
Otterville.....	76	1 00	1 00	1 00	92.6	92.6	92.6 A
Owen Sound.....	1 23	75	75	75	61.0	61.0	61.0
Paris.....	75	75	75	75	100.0	100.0	100.0
Pembroke.....	1 80	\$ 73	\$ 73	\$ 73	40.6	40.6	40.6
Penetanguishene.....	94	75	75	75	79.7	79.7	79.7
Perth.....	1 62	75	75	75	46.3	46.3	46.3
Peterboro.....	75	75	75	75	100.0	100.0	100.0
Pictou.....	1 16	81	81	81	69.8	69.8	64.7
Port Arthur.....	70	75	75	75	107.1	107.1	107.1
Port Hope.....	1 20	81	81	81	67.5	67.5	67.5
Prescott.....	1 35	75	75	75	55.6	55.6	55.6
Preston.....	90	75	75	75	83.3	83.3	83.3
Rainy River.....	1 90	* 2 20	* 2 20	* 2 20	115.8	115.8	115.8 A
Renfrew.....	1 44	† 68	† 68	† 68	47.2	47.2	47.2
Richmond Hill.....	1 48	98	98	98	66.2	66.2	60.8
Ridgetown.....	1 50	75	75	75	50.0	50.0	50.0
Sault Ste. Marie.....	† 1 75	50	50	50	28.6	28.6	28.6 A
Seaforth.....	2 20	75	75	75	34.1	34.1	34.1
Shelburne.....	2 25	† 1 00	† 1 00	† 1 00	44.4	44.4	44.4
Smith's Falls.....	1 21	† 1 00	† 1 00	† 1 11	82.6	82.6	91.7
Stouffville.....	2 03	† 1 35	† 1 35	† 1 11	66.5	66.5	54.7 A
Strathroy.....	2 00	75	75	75	37.5	37.5	37.5
Stratford.....	97	75	75	75	77.3	77.3	77.3
Streetsville.....	1 40	† 1 05	† 1 05	† 1 31	75.0	75.0	93.6
St. Catharines.....	† 1 00	\$ 54	\$ 54	\$ 54	54.0	54.0	54.0
St. Marys.....	1 03	75	75	75	72.8	72.8	72.8
St. Thomas.....	80	75	75	75	93.8	93.8	93.8
Sudbury.....	1 50	† 1 23	† 1 23	† 1 23	82.0	82.0	82.0
Thamesville.....	1 75	† 1 00	† 1 00	† 75	57.1	57.1	42.9
Tavistock.....	1 80	† 1 00	† 1 00	† 75	55.6	55.6	41.7
Teeswater.....	1 80	† 1 50	† 1 50	† 1 50	83.3	83.3	83.3
Thamesford.....	1 17	93	93	93	79.5	79.5	79.5
Thedford.....	1 75	† 1 50	† 1 50	† 1 25	85.7	85.7	71.4
Thessalon.....	1 37	† 1 67	† 1 67	† 1 67	121.8	121.8	121.8
Thorold.....	75	75	75	75	100.0	100.0	100.0
Tilbury.....	1 50	† 1 00	† 1 00	† 1 00	66.7	66.7	66.7
Toronto.....	76	75	75	75	98.7	98.7	98.7
Trenton.....	1 26	75	75	75	59.5	59.5	59.5
Tweed.....	1 20	† 1 00	† 1 00	† 1 00	83.3	83.3	83.3
Uxbridge.....	1 75	† 1 50	† 1 50	† 1 25	85.7	85.7	71.4
Vankleek Hill.....	† 1 75	\$ 1 54	\$ 1 54	\$ 1 54	88.0	88.0	88.0 A
Victoria Harbour.....	1 48	† 1 00	† 1 00	† 1 00	67.6	67.6	67.6
Wallaceburg.....	1 80	75	75	75	41.7	41.7	41.7
Walkerville.....	1 56	75	75	75	48.1	48.1	48.1
Waterford.....	94	75	75	75	79.8	79.8	79.8
Waterloo.....	90	75	75	75	83.3	83.3	83.3
Welland.....	64	75	75	75	117.2	117.2	117.2
Weston.....	90	75	75	75	83.3	83.3	83.3
Whitby.....	1 32	† 60	† 60	† 60	45.5	45.5	45.5
Winchester.....	2 25	† 1 00	† 1 00	† 1 00	44.4	44.4	44.4
Windsor.....	1 20	75	75	75	62.5	62.5	62.5
Wingham.....	1 50	75	75	75	50.0	50.0	50.0
Woodstock.....	75	75	75	75	100.0	100.0	100.0

Legend:—

- * Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

- Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique

ONTARIO—Continued—ONTARIO—suite

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Alliston.....	2 40	1 20	1 20	1 74	50.0	50.0	72.5 A
Ancaster.....	1 06	1 20	1 02	1 02	113.2	96.2	96.2 A
Arthur.....	2 25	2 00	2 00	2 00	88.9	88.9	88.9 A
Arkona.....	2 25	3 25	3 25	3 25	144.4	144.4	144.4 A
Aurora.....	1 00	60	60	60	60.0	60.0	60.0
Aylmer.....	2 02	75	75	75	37.1	37.1	37.1 A
Baden.....	1 33	75	75	84	56.4	56.4	63.2 A
Barrie.....	1 31	75	75	75	57.3	57.3	57.3
Beachville.....	1 40	80	80	84	57.1	57.1	60.0 A
Beeton.....	2 35	1 50	1 50	1 74	63.8	63.8	74.0 A
Belleville.....	1 30	92	92	92	70.8	70.8	70.8
Blenheim.....	2 16	75	75	75	34.7	34.7	34.7 A
Bolton.....	2 25	1 28	1 28	1 20	56.9	56.9	53.3 A
Bowmanville.....	1 60	92	92	92	57.5	57.5	57.5 A
Brampton.....	1 05	75	75	75	71.4	71.4	71.4
Brighton.....	1 60	90	90	1 28	56.3	56.3	80.0 A
Brookville.....	2 00	1 42	90	84	71.0	45.0	42.0 A
Brussels.....	3 25	2 50	2 50	2 00	76.9	76.9	61.5 A
Burks Falls.....	1 80	2 00	2 00	2 00	111.1	111.1	111.1 A
Cardinal.....	1 65	1 60	1 60	1 60	97.0	97.0	97.0 A
Carleton Place.....	1 28	1 10	1 02	1 20	85.9	79.7	93.8
Chatham.....	1 66	1 04	1 05	75	62.7	63.3	45.2
Clinton.....	2 25	75	75	75	33.3	33.3	33.3 A
Cochrane.....	2 25	2 25	2 25	1 45	100.0	100.0	64.4
Collingwood.....	1 31	75	75	75	57.3	57.3	57.3
Cobourg.....	1 16	1 10	1 10	1 10	94.8	94.8	94.8
Cornwall.....	1 40	1 10	1 10	1 01	78.6	78.6	72.1 A
Delhi.....	1 85	1 85	1 85	1 85	100.0	100.0	100.0 A
Deseronto.....	1 60	1 46	1 46	1 46	91.3	91.3	91.3
Dundas.....	1 06	75	75	75	70.8	70.8	70.8 A
Dundalk.....	3 05	1 00	1 00	1 00	32.8	32.8	32.8 A
Dunnville.....	1 45	84	84	84	57.9	57.9	57.9
Elk Lake.....	1 48	2 25	2 25	2 25	152.0	152.0	152.0
Elmvale.....	2 05	75	75	75	36.6	36.6	36.6 A
Exeter.....	2 25	75	75	84	33.3	33.3	37.3
Fergus.....	2 25	75	75	75	33.3	33.3	33.3
Forest.....	2 25	1 02	1 02	1 02	45.3	45.3	45.3 A
Fort Erie.....	1 62	1 00	1 00	1 00	61.7	61.7	61.7 A
Fort William.....	90	54	54	54	60.0	60.0	60.0 A
Gananoque.....	1 10	1 10	1 10	1 10	78.6	78.6	78.6
Georgetown.....	1 10	75	75	75	68.2	68.2	68.2
Galt.....	1 02	75	77	77	73.5	73.5	75.5 A
Goderich.....	1 13	83	83	84	73.5	73.5	74.3
Grand Valley.....	2 25	1 25	1 25	1 38	55.6	55.6	61.3 A
Guelph.....	1 09	75	75	75	68.8	68.8	68.8
Hagersville.....	1 31	75	75	75	57.3	57.3	57.3
Hamilton.....	1 04	75	75	75	72.1	72.1	72.1
Hastings.....	2 25	1 00	1 00	1 14	44.4	44.4	50.2 A
Hawkesbury.....	1 80	1 80	1 80	1 80	100.0	100.0	100.0 A
Hensall.....	2 65	1 25	1 25	1 25	47.2	47.2	47.2
Hespeler.....	1 93	1 00	1 00	75	51.8	51.8	38.9
Ingersoll.....	1 67	75	75	75	44.9	44.9	44.9
Kingston.....	1 95	92	92	92	47.2	47.2	47.2
Kitchener.....	1 13	75	75	75	66.4	66.4	66.4 A
Lambeth.....	1 40	1 25	1 25	1 25	89.3	89.3	89.3
London.....	90	75	75	75	83.3	83.3	83.3 A
Listowel.....	2 00	92	75	75	46.0	37.5	37.5
L'Orignal.....	2 20	2 20	2 20	2 20	100.0	100.0	100.0 A
Lynden.....	1 50	1 25	1 25	1 25	83.3	83.3	83.3
Markdale.....	2 00	1 00	1 00	1 00	50.0	50.0	50.0
Midland.....	1 03	75	75	75	72.8	72.8	72.8
Millbrook.....	1 60	1 28	1 28	1 28	80.0	80.0	80.0 A
Mimico.....	1 15	75	75	75	65.2	65.2	65.2
Mount Forest.....	2 00	1 00	1 00	1 02	50.0	50.0	51.0 A
Napanee.....	1 60	1 10	1 10	1 10	68.8	68.8	68.8
Neustadt.....	1 64	1 50	1 50	1 74	91.5	91.5	106.1
Newmarket.....	2 15	60	60	60	27.9	27.9	27.9 A
Newburg.....	2 40	1 50	1 50	1 50	62.5	62.5	62.5
New Hamburg.....	1 08	75	75	75	69.4	69.4	69.4 A
Niagara Falls.....	80	75	75	75	93.8	93.8	93.8
Norwich.....	1 15	75	75	75	65.2	65.2	65.2
Orillia.....	1 23	54	51	51	43.9	41.5	41.5 A
Orono.....	1 60	1 37	1 37	1 37	85.6	85.6	85.6
Oshawa.....	1 60	92	92	92	57.5	57.5	57.5
Ottawa.....	1 04	74	74	74	71.2	71.2	71.2
Otterville.....	1 40	1 00	1 00	100	71.4	71.4	71.4
Owen Sound.....	1 59	75	75	75	47.2	47.2	47.2 A
Paris.....	75	75	75	75	100.0	100.0	100.0
Pembroke.....	2 40	92	92	92	38.3	38.3	38.3
Penetanguishene.....	1 28	75	75	75	58.8	58.8	58.8

CENSUS OF INDUSTRY

ONTARIO—Continued—ONTARIO—suite

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES—fin

Perth.....	2 11	84	84	84	39.8	39.8	39.8
Peterboro.....	83	83	83	83	100.0	100.0	100.0
Pictou.....	1 48	1 10	1 10	75	74.3	74.3	50.7
Port Arthur.....	95	75	75	75	78.9	78.9	78.9
Port Hope.....	1 50	1 10	1 10	1 10	73.3	73.3	73.3
Prescott.....	1 80	75	75	75	41.7	41.7	41.7
Preston.....	1 22	83	83	75	68.0	68.0	61.5
Rainy River.....	2 45	2 85	2 85	2 85	116.3	116.3	116.3
Renfrew.....	1 88	92	92	92	48.9	48.9	48.9
Richmond Hill.....	1 80	1 20	1 20	1 11	66.7	66.7	61.7A
Ridgeway.....	2 00	83	75	75	41.5	37.5	37.5
Sault Ste. Marie.....	2 14	68	68	68	31.8	31.8	31.8
Seaford.....	2 88	81	81	75	28.1	28.1	26.0
Shelburne.....	2 75	1 22	1 22	1 02	44.4	44.4	37.1A
Stouffville.....	2 65	1 82	1 82	1 38	68.7	68.7	52.1
Strathroy.....	2 60	75	75	75	28.8	28.8	28.8
Stratford.....	1 31	86	86	86	65.6	65.6	65.6A
Streetsville.....	1 80	1 40	1 40	1 67	77.8	77.8	92.8
Smith's Falls.....	1 57	1 02	1 02	1 38	65.0	65.0	87.9
St. Catharines.....	1 19	74	74	74	62.2	62.2	62.2
St. Marys.....	1 40	75	75	75	53.6	53.6	53.6
St. Thomas.....	1 09	75	75	75	68.8	68.8	68.8
Sudbury.....	1 95	1 59	1 59	1 59	81.5	81.5	81.5A
Thamesville.....	2 25	1 00	84	84	44.4	44.4	37.3
Tavistock.....	2 40	1 00	1 00	75	41.7	41.7	31.3A
Teeswater.....	2 40	1 50	1 50	1 50	62.5	62.5	62.5A
Thamesford.....	1 58	1 10	1 10	1 10	69.6	69.6	69.6A
Thedford.....	2 25	1 50	1 50	1 25	66.7	66.7	55.6A
Thessalon.....	1 77	2 17	2 17	2 17	122.6	122.6	122.6A
Thorold.....	92	75	75	75	81.5	81.5	81.5
Tilbury.....	2 00	1 10	1 00	1 00	55.0	50.0	50.0A
Toronto.....	1 04	75	75	75	72.1	72.1	72.1
Trenton.....	1 70	92	92	92	54.1	54.1	54.1A
Tweed.....	1 60	1 28	1 28	1 28	80.0	80.0	80.0A
Uxbridge.....	2 25	1 50	1 50	1 25	66.7	66.7	55.6A
Vankleek Hill.....	2 27	1 89	1 89	1 89	83.3	83.3	83.3
Victoria Harbour.....	1 93	1 00	1 00	1 00	51.8	51.8	51.8
Walkerville.....	1 92	75	75	75	39.1	39.1	39.1
Wallaceburg.....	2 33	75	75	75	32.2	32.2	32.2
Waterford.....	1 22	75	75	75	61.5	61.5	61.5A
Waterloo.....	1 23	75	75	75	61.0	61.0	61.0
Welland.....	87	75	75	75	86.2	86.2	86.2
Weston.....	1 15	75	75	75	65.2	65.2	65.2A
Whitby.....	1 64	82	82	82	50.0	50.0	50.0
Winchester.....	3 00	81	81	81	27.0	27.0	27.0
Windsor.....	1 60	92	75	75	57.5	46.9	46.9
Wingham.....	2 00	1 00	1 00	1 00	50.0	50.0	50.0A
Woodstock.....	1 02	75	75	75	73.5	73.5	73.5

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Alliston.....	4 80	2 10	2 10	2 64	43.8	43.8	55.0
Ancaster.....	1 84	2 10	1 74	1 74	114.1	94.6	94.6
Arthur.....	4 25	2 46	2 46	2 46	57.9	57.9	57.9
Arkona.....	4 25	6 25	6 25	6 25	147.1	147.1	147.1
Aurora.....	2 00	1 05	1 05	1 05	52.5	52.5	52.5A
Aylmer.....	3 82	99	99	1 12	25.9	25.9	29.3
Baden.....	2 37	1 02	1 02	1 38	43.0	43.0	58.2
Barrie.....	2 20	1 01	1 01	1 01	45.9	45.9	45.9
Beachville.....	2 38	1 50	1 50	1 38	63.0	63.0	58.0
Beeton.....	4 55	2 60	2 28	3 18	57.1	50.1	69.9
Bellefleur.....	2 00	1 51	1 51	1 51	75.5	75.5	75.5A
Blenheim.....	4 32	1 20	1 20	1 20	27.8	27.8	27.8
Bolton.....	4 25	2 23	2 23	2 10	52.5	52.5	49.4
Bowmanville.....	3 20	1 51	1 51	1 51	47.2	47.2	47.2
Brampton.....	1 66	1 02	1 02	1 02	61.4	61.4	61.4A
Brighton.....	3 20	1 80	1 80	2 23	56.3	56.3	69.7
Brockville.....	4 00	2 48	1 50	1 38	62.0	37.5	34.5
Brussels.....	6 25	2 50	2 50	2 46	40.0	40.0	39.4
Burks Falls.....	3 40	3 60	3 60	3 60	105.9	105.9	105.9
Cardinal.....	3 05	3 00	3 00	3 00	98.4	98.4	98.4
Carleton Place.....	2 48	1 87	1 74	2 10	75.4	70.2	84.7A
Chatham.....	3 10	1 38	1 38	1 20	44.5	44.5	38.7A
Clinton.....	4 25	1 20	1 20	1 20	28.2	28.2	28.2
Cochrane.....	4 25	4 25	4 25	2 65	100.0	100.0	62.4
Collingwood.....	2 19	1 02	1 02	1 02	46.6	46.6	46.6

ONTARIO—Continued—ONTARIO—suite

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	092	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—Continued—CONSOMMATION MENSUELLE DE 40 KILOWATT-HEURES—suite

Cobourg.....	1 84	1 87	1 87	1 87	101.6	101.6	101.6
Cornwall.....	2 80	1 88	1 88	1 70	67.1	67.1	60.7
Delhi.....	3 45	3 45	3 45	3 45	100.0	100.0	100.0
Deseronto.....	3 20	2 59	2 59	2 59	80.9	80.9	80.9
Dundas.....	1 84	90	1 02	1 02	48.9	55.4	55.4
Dundalk.....	5 85	1 02	1 02	1 02	17.4	17.4	17.4
Dunnville.....	2 65	1 38	1 38	1 38	52.1	52.1	52.1 A
Elk Lake.....	2 76	4 25	4 25	4 25	154.0	154.0	154.0
Elmvale.....	3 82	1 02	1 02	1 02	26.7	26.7	26.7
Exeter.....	4 25	1 20	1 38	1 38	28.2	28.2	32.5
Fergus.....	4 25	1 02	1 02	1 20	24.0	24.0	28.2 A
Forest.....	4 25	1 74	1 74	1 74	40.9	40.9	40.9
Fort Erie.....	2 32	1 74	1 40	1 50	75.0	60.3	64.7
Fort William.....	1 80	1 08	1 08	1 08	60.0	60.0	60.0
Gananoque.....	2 70	1 67	1 67	1 67	61.9	61.9	61.9 A
Georgetown.....	1 87	99	99	1 02	52.9	52.9	54.5 A
Galt.....	1 53	1 02	1 15	1 15	66.7	75.2	75.2
Goderich.....	2 05	1 33	1 33	1 38	64.9	64.9	67.3 A
Grand Valley.....	4 25	2 10	2 10	2 46	49.4	49.4	57.9
Guelph.....	1 79	90	1 02	1 02	50.3	57.0	57.0 A
Hagersville.....	2 05	1 02	1 02	1 02	49.8	49.8	49.8 A
Hamilton.....	1 66	1 15	1 15	1 02	69.3	69.3	61.4 A
Hastings.....	4 25	1 75	1 75	1 80	41.2	41.2	42.4
Hawkesbury.....	3 40	2 70	2 70	2 70	79.4	79.4	79.4
Hensall.....	5 05	1 50	1 38	1 74	29.7	27.3	34.5
Hespeler.....	3 73	1 34	1 02	1 02	35.9	27.3	27.3
Ingersoll.....	2 20	1 15	1 15	1 02	52.3	52.3	46.4 A
Kingston.....	3 75	1 52	1 52	1 52	40.5	40.5	40.5 A
Kitchener.....	1 84	1 15	1 15	1 02	62.5	62.5	55.4
Lambeth.....	2 59	1 74	1 74	1 74	67.2	67.2	67.2 A
London.....	1 80	1 15	1 15	1 15	63.9	63.9	63.9
Listowel.....	4 00	1 52	1 02	1 20	38.0	25.5	30.0
L'Orignal.....	4 20	4 20	4 20	4 20	100.0	100.0	100.0
Lynden.....	2 21	1 35	1 35	1 38	61.1	61.1	62.4
Markdale.....	4 00	1 20	1 20	1 20	30.0	30.0	30.0 A
Midland.....	1 79	1 02	1 02	1 02	57.0	57.0	57.0
Millbrook.....	3 20	2 24	2 24	2 24	70.0	70.0	70.0
Mimico.....	2 02	1 02	1 02	1 02	50.5	50.5	50.5 A
Mount Forest.....	4 00	1 38	1 38	1 74	34.5	34.5	43.5
Napanee.....	3 20	1 87	1 87	1 87	58.4	58.4	58.4
Neustadt.....	2 84	2 46	2 46	3 18	86.6	86.6	112.0
Newmarket.....	4 15	98	98	98	23.6	23.6	23.6
Newburg.....	4 80	2 05	2 05	2 05	42.7	42.7	42.7 A
New Hamburg.....	1 80	1 02	1 02	1 02	56.7	56.7	56.7
Niagara Falls.....	1 60	1 16	1 16	1 16	72.5	72.5	72.5
Norwich.....	2 01	1 02	1 02	1 02	50.7	50.7	50.7 A
Orillia.....	1 59	88	88	88	55.3	55.3	55.3
Orono.....	3 20	2 41	2 41	2 41	75.3	75.3	75.3
Oshawa.....	3 20	1 51	1 51	1 51	47.2	47.2	47.2 A
Ottawa.....	1 66	1 15	1 15	1 15	69.3	69.3	69.3 A
Otterville.....	2 59	1 40	1 45	1 45	54.0	56.0	56.0
Owen Sound.....	3 03	1 15	1 02	1 02	38.0	36.7	36.7
Paris.....	1 44	89	89	1 02	61.8	61.8	70.8
Pembroke.....	4 40	1 51	1 51	1 51	34.3	34.3	34.3
Penetanguishene.....	2 23	1 02	1 02	1 02	45.7	45.7	45.7 A
Perth.....	4 09	1 38	1 38	1 38	33.7	33.7	33.7 A
Peterboro.....	1 33	1 33	1 33	1 22	100.0	100.0	91.7
Pictou.....	2 76	1 87	1 87	1 20	67.8	67.8	43.5 A
Port Arthur.....	1 48	1 15	1 15	1 15	77.7	77.7	77.7
Port Hope.....	2 40	1 87	1 87	1 87	77.9	77.9	77.9
Prescott.....	3 60	1 02	1 02	1 02	28.3	28.3	28.3 A
Preston.....	2 02	1 33	1 33	1 20	65.8	65.8	59.4 A
Rainy River.....	4 65	5 45	5 45	5 45	117.2	117.2	117.2
Renfrew.....	3 63	1 52	1 52	1 52	41.9	41.9	41.9
Richmond Hill.....	3 06	2 20	2 20	1 92	71.9	71.9	62.7
Ridgetown.....	4 00	1 33	1 02	1 02	33.3	25.5	25.5
Sault Ste. Marie.....	3 56	1 12	1 12	1 12	31.5	31.5	31.5
Seaford.....	5 58	1 35	1 35	1 20	24.2	24.2	21.5 A
Shelburne.....	4 75	1 90	1 90	1 74	40.0	40.0	36.6
Smith's Falls.....	3 01	1 74	1 74	2 46	57.8	57.8	81.7
Stouffville.....	5 15	3 41	3 41	2 46	66.2	66.2	47.8
Strathroy.....	5 00	1 02	1 02	1 20	20.4	20.4	24.0
Stratford.....	2 20	1 34	1 34	1 34	60.9	60.9	60.9
Streetsville.....	3 40	2 80	2 80	3 11	82.4	82.4	91.5 A
St. Catharines.....	2 38	1 15	1 15	1 15	48.3	48.3	48.3
St. Marys.....	2 38	1 20	1 20	1 20	50.4	50.4	50.4
St. Thomas.....	1 79	1 15	1 02	1 02	64.2	57.0	57.0
Sudbury.....	3 75	3 03	3 03	3 03	80.8	80.8	80.8
Thamesford.....	2 73	1 90	1 90	1 90	69.6	69.6	69.6
Thamesville.....	4 25	1 38	1 38	1 38	32.5	32.5	32.5 A

CENSUS OF INDUSTRY

ONTARIO—Continued—ONTARIO—suite

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES—fin

Tavistock.....	4 80	1 33	1 33	1 20	27 7	27-7	25 0
Teeswater.....	4 80	2 23	2 23	2 10	46-5	46-5	43-8
Thedford.....	4 25	2 46	2 46	2 46	57-9	57-9	57-9
Thessalon.....	3 37	4 17	4 17	4 17	123-7	123-7	123-7
Thorold.....	1 51	1 02	1 02	1 02	67-5	67-5	67-5 A
Tilbury.....	4 00	1 87	1 38	1 38	46-8	34-5	34-5
Toronto.....	1 66	1 15	1 15	1 15	69-3	69-3	69-3
Trenton.....	3 14	1 51	1 51	1 51	48-1	48-1	48-1
Tweed.....	3 20	2 23	2 23	2 23	69-7	69-7	69-7
Uxbridge.....	4 25	2 46	2 46	2 10	57-9	57-9	49-4
Vankleek Hill.....	4 37	3 29	3 29	3 29	75-3	75-3	75-3
Victoria Harbour.....	3 73	1 38	1 38	1 38	37-0	37-0	37-0 A
Walkerbille.....	2 88	1 20	1 20	1 20	41-7	41-7	41-7
Wallaceburg.....	4 42	1 20	1 20	1 20	27-1	27-1	27-1 A
Waterford.....	2 05	1 02	1 02	1 02	49-8	49-8	49-8
Waterloo.....	2 02	1 02	1 02	1 02	50-5	50-5	50-5
Welland.....	1 38	1 15	1 15	1 20	83-3	83-3	87-0
Weston.....	2 02	1 15	1 15	1 15	56-9	56-9	56-9
Whitby.....	2 92	1 34	1 34	1 34	45-9	45-9	45-9 A
Winchester.....	6 00	1 35	1 35	1 35	22-5	22-5	22-5 A
Windsor.....	3 20	1 51	1 20	1 20	47-2	37-5	37-5
Wingham.....	4 00	2 00	2 00	2 00	50-0	50-0	50-0
Woodstock.....	1 68	1 15	1 15	1 02	68-5	68-5	60-7 A

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Alliston.....	7 20	3 00	3 00	3 00	41-7	41-7	41-7
Ancaster.....	2 47	3 00	2 46	2 19	121-5	99-6	88-7
Arthur.....	6 25	3 54	3 54	3 54	56-6	56-6	56-6
Arkona.....	6 25	9 25	9 25	9 25	148-0	148-0	148-0
Aurora.....	3 00	1 45	1 45	1 45	48-3	48-3	48-3
Aylmer.....	5 62	1 26	1 26	1 38	22-4	22-4	24-6
Baden.....	3 27	1 38	1 38	1 86	42-2	42-2	56-9
Barrie.....	3 01	1 38	1 38	1 38	45-8	45-8	45-8 A
Beachville.....	3 28	2 10	2 10	1 85	64-0	64-0	56-4
Beeton.....	6 75	2 81	2 97	4 62	41-6	44-0	68-4
Belleville.....	2 60	1 89	1 89	1 89	72-7	72-7	72-7
Blenheim.....	6 48	1 65	1 65	1 65	25-5	25-5	25-5
Bolton.....	6 25	3 13	3 13	2 60	50-0	50-0	41-6
Bramanville.....	4 80	1 89	1 89	1 89	39-4	39-4	39-4
Brampton.....	2 20	1 38	1 38	1 38	62-7	62-7	62-7
Brighton.....	4 80	2 70	2 70	2 81	56-3	56-3	58-5
Brookville.....	6 00	2 64	2 10	1 92	44-0	35-0	32-0
Brussels.....	9 25	3 60	3 60	2 82	38-9	38-9	30-5
Burks Falls.....	5 00	5 20	5 20	5 20	104-0	104-0	104-0
Cardinal.....	4 45	4 40	4 40	4 40	98-9	98-9	98-9
Carleton Place.....	3 68	2 30	2 46	2 59	62-5	66-8	70-4
Chatham.....	4 54	1 95	1 95	1 65	43-0	43-0	36-3
Clinton.....	6 25	1 65	1 65	1 65	26-4	26-4	26-4
Cochrane.....	6 25	6 25	6 25	3 82	100-0	100-0	61-1
Collingwood.....	3 00	1 38	1 38	1 38	46-0	46-0	46-0 A
Cobourg.....	2 44	2 38	2 38	2 38	97-5	97-5	97-5 A
Cornwall.....	4 20	2 38	2 38	2 16	56-7	56-7	51-4
Delhi.....	5 05	5 05	5 05	5 05	100-0	100-0	100-0
Deseronto.....	4 80	3 24	3 24	3 24	67-5	67-5	67-5
Dundas.....	2 47	1 08	1 38	1 38	43-7	35-9	35-9
Dundalk.....	8 65	1 38	1 38	1 38	16-0	16-0	16-0
Dunnville.....	3 85	1 92	1 92	1 86	49-9	49-9	48-3
Elk Lake.....	4 04	6 25	6 25	6 25	154-7	154-7	154-7
Elmvale.....	5 44	1 38	1 38	1 38	25-4	25-4	25-4
Exeter.....	6 25	1 65	1 65	1 86	26-4	26-4	29-8
Fergus.....	6 25	1 38	1 38	1 65	22-1	22-1	26-4
Forest.....	6 25	2 46	2 46	2 28	39-4	39-4	36-5
Fort William.....	2 70	1 62	1 62	1 62	60-0	60-0	60-0
Gananoque.....	4 00	2 21	2 21	2 21	55-3	55-3	55-3
Georgetown.....	2 38	1 35	1 35	1 38	56-7	56-7	58-0
Galt.....	2 28	1 38	1 38	1 51	60-5	66-2	66-2
Goderich.....	2 86	1 83	1 83	1 86	64-0	64-0	65-0
Grand Valley.....	6 25	3 00	3 00	2 82	48-0	48-0	45-1
Guelph.....	2 43	1 40	1 38	1 38	57-6	56-8	56-8
Hagersville.....	2 62	1 38	1 38	1 38	52-7	52-7	52-7
Hamilton.....	2 20	1 40	1 40	1 38	63-6	63-6	62-7
Hastings.....	6 25	2 55	2 55	2 25	40-8	40-8	36-0
Hawkesbury.....	5 00	3 60	3 60	3 60	72-0	72-0	72-0
Hensall.....	7 45	2 25	1 65	2 28	30-2	22-1	30-6
Hespeler.....	5 53	1 65	1 38	1 38	29-8	25-0	25-0 A

CENTRAL ELECTRIC STATIONS

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ONTARIO—Continued—ONTARIO—suite

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES—fin							
Ingersoll.....	3 01	1 40	1 40	1 38	46.5	46.5	45.8
Kingston.....	5 55	1 89	1 89	1 89	34.1	34.1	34.1
Kitchener.....	2 47	1 40	1 40	1 38	56.7	56.7	55.9
Lambeth.....	3 67	2 46	2 46	2 28	67.0	67.0	62.1
London.....	2 70	1 40	1 40	1 40	51.9	51.9	51.9
Listowel.....	6 00	1 89	1 38	1 65	31.5	23.0	27.5 A
L'Original.....	6 20	6 20	6 20	6 20	100.0	100.0	100.0
Lynden.....	2 72	1 89	1 89	1 85	69.5	69.5	68.0
Markdale.....	6 00	1 65	1 65	1 65	27.5	27.5	27.5
Midland.....	2 43	1 38	1 38	1 38	56.8	56.8	56.8 A
Millbrook.....	4 80	2 81	2 81	2 81	58.5	58.5	58.5
Mimico.....	2 74	1 38	1 38	1 38	50.4	50.4	50.4
Mount Forest.....	6 00	1 92	1 92	2 28	32.0	32.0	38.0
Napanee.....	4 80	2 38	2 38	2 38	49.6	49.6	49.6
Neustadt.....	3 78	3 54	3 54	4 62	93.7	93.7	122.2
Newmarket.....	6 25	1 28	1 28	1 28	20.5	20.5	20.5
Newburg.....	7 20	2 62	2 62	2 62	36.4	36.4	36.4
New Hamburg.....	2 52	1 38	1 38	1 38	54.8	54.8	54.8
Niagara Falls.....	2 40	1 41	1 41	1 41	58.8	58.8	58.8 A
Norwich.....	2 74	1 38	1 38	1 38	50.4	50.4	50.4
Orillia.....	1 95	1 19	1 19	1 19	61.0	61.0	61.0
Orono.....	4 80	3 02	3 02	3 02	62.9	62.9	62.9
Oshawa.....	4 80	1 89	1 89	1 89	39.4	39.4	39.4
Ottawa.....	2 20	1 40	1 40	1 40	63.6	63.6	63.6
Otterville.....	3 67	1 91	1 99	1 99	52.0	54.2	54.2
Owen Sound.....	4 47	1 40	1 38	1 38	31.3	30.9	30.9
Paris.....	2 16	1 35	1 35	1 38	62.5	62.5	63.9 A
Pembroke.....	6 00	2 05	2 05	2 05	34.2	34.2	34.2 A
Penetanguishene.....	3 13	1 38	1 38	1 34	44.1	44.1	42.8
Perth.....	6 07	1 92	1 92	1 92	31.6	31.6	31.6
Peterboro.....	1 65	1 65	1 65	1 45	100.0	100.0	87.9 A
Pictou.....	4 04	2 38	2 38	1 65	58.9	58.9	40.8
Port Arthur.....	1 93	1 40	1 40	1 40	72.5	72.5	72.5 A
Port Hope.....	3 20	2 38	2 38	2 38	74.4	74.4	74.4 A
Prescott.....	5 40	1 38	1 38	1 38	25.6	25.6	25.6
Preston.....	2 74	1 65	1 65	1 65	60.2	60.2	60.2
Rainy River.....	6 85	8 05	8 05	8 05	117.5	117.5	117.5
Renfrew.....	5 38	1 95	1 95	1 95	36.2	36.2	36.2
Richmond Hill.....	4 32	2 70	2 70	2 73	62.5	62.5	63.2
Ridgetown.....	6 00	1 65	1 38	1 38	27.5	23.0	23.0
Sault Ste. Marie.....	4 51	1 44	1 44	1 44	31.9	31.9	31.9
Seaforth.....	8 28	1 89	1 89	1 65	22.8	22.8	19.9
Shelburne.....	6 75	2 70	2 70	2 28	40.0	40.0	33.8
Smith's Falls.....	4 45	2 46	2 46	2 82	55.3	55.3	63.4
Stouffville.....	7 65	4 03	4 03	2 82	52.7	52.7	36.9
Strathroy.....	7 40	1 38	1 38	1 65	18.6	18.6	22.3 A
Stratford.....	3 01	1 79	1 79	1 79	59.5	59.5	59.5
Streetsville.....	5 00	4 20	4 20	4 55	84.0	84.0	91.0
St. Catharines.....	3 57	1 40	1 40	1 40	39.2	39.2	39.2 A
St. Marys.....	3 28	1 65	1 65	1 65	50.3	50.3	50.3 A
St. Thomas.....	2 43	1 40	1 38	1 38	57.6	56.8	56.8 A
Sudbury.....	5 55	4 47	4 47	4 47	80.5	80.5	80.5
Thamesford.....	3 82	2 70	2 70	2 50	70.7	70.7	65.4
Thamesville.....	6 25	1 92	1 92	1 85	30.7	30.7	29.6
Tavistock.....	7 20	1 65	1 65	1 65	22.9	22.9	22.9
Teeswater.....	7 20	2 81	2 81	3 00	39.0	39.0	41.7
Theford.....	6 25	3 54	3 54	2 82	56.6	56.6	45.1
Thessalon.....	4 97	6 17	6 17	6 17	124.1	124.1	124.1
Thorold.....	2 05	1 38	1 38	1 38	67.3	67.3	67.3
Tilbury.....	6 00	2 38	1 92	1 56	39.7	32.0	26.0
Toronto.....	2 20	1 40	1 40	1 40	63.6	63.6	63.6 A
Trenton.....	4 64	2 05	2 05	1 89	45.2	45.2	41.6
Tweed.....	4 80	2 81	2 81	2 81	58.5	58.5	58.5
Uxbridge.....	6 25	3 54	3 54	2 60	56.6	56.6	41.6
Vankleek Hill.....	6 47	4 34	4 34	4 34	67.1	67.1	67.1
Victoria Harbour.....	5 63	1 92	1 92	1 86	34.7	34.7	33.6
Walkerville.....	3 68	1 65	1 65	1 65	44.8	44.8	44.8 A
Wallaceburg.....	2 59	1 38	1 38	1 38	53.3	53.3	53.3
Waterford.....	2 74	1 38	1 38	1 38	50.4	50.4	50.4 A
Waterloo.....	1 83	1 40	1 40	1 65	76.5	76.5	90.2 A
Welland.....	2 74	1 40	1 40	1 40	51.1	51.1	51.1
Weston.....	4 20	1 66	1 66	1 66	39.5	39.5	39.5
Whitby.....	9 00	1 89	1 89	1 89	21.0	21.0	21.0
Winchester.....	4 80	1 89	1 89	1 65	39.4	34.4	34.4
Windsor.....	6 00	3 00	3 00	3 00	50.0	50.0	50.0
Wingham.....	2 28	1 40	1 40	1 38	61.4	61.4	60.5
Woodstock.....							

ONTARIO—Continued—ONTARIO—suite

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	19 4	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—Continued—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES—suite

Alliston.....	21 60	5 10	5 10	5 16	23-6	23-6	23-9
Ancaster.....	6 39	5 16	4 62	4 35	80-7	72-3	68-1
Arthur.....	18 25	5 70	5 70	5 70	31-2	31-2	31-2
Arkona.....	18 25	27 25	27 25	27 25	149-3	149-3	149-3
Aurora.....	9 00	3 30	3 30	3 30	36-7	36-7	36-7
Aylmer.....	16 42	2 34	2 34	2 46	14-3	14-3	15-0
Baden.....	8 82	2 46	2 46	3 48	27-9	27-9	39-5
Barrie.....	8 01	2 46	2 46	2 46	30-7	30-7	30-7
Beachville.....	8 82	5 70	5 70	3 47	64-6	64-6	39-3
Beeton.....	19 95	5 94	5 13	6 78	29-8	25-7	34-0
Belleville.....	6 40	3 78	3 78	3 78	59-1	59-1	59-1
Blenheim.....	19 44	3 27	3 27	3 27	16-8	16-8	16-8
Bolton.....	18 25	5 40	5 40	4 76	29-6	29-6	26-1
Bowmanville.....	14 40	3 78	3 78	3 78	26-3	26-3	26-3
Brampton.....	5 58	2 46	2 46	2 46	44-1	44-1	44-1
Brighton.....	14 40	8 10	8 10	5 40	56-3	56-3	37-5
Brockville.....	18 00	6 00	3 90	8 54	33-3	21-7	19-7
Brussels.....	27 25	6 00	6 00	4 98	22-0	22-0	18-3
Burks Falls.....	14 60	14 80	14 80	14 80	101-4	101-4	101-4
Cardinal.....	12 85	12 80	12 80	12 80	99-6	99-6	99-6
Carleton Place.....	10 88	4 86	5 70	4 75	44-7	52-4	43-7
Chatham.....	13 18	3 60	3 60	3 00	27-3	27-3	22-8
Clinton.....	18 25	3 27	3 27	3 27	17-9	17-9	17-9
Cochrane.....	18 25	18 25	18 25	11 05	100-0	100-0	60-5
Collingwood.....	8 01	2 46	2 46	2 46	30-7	30-7	30-7
Cobourg.....	6 20	4 86	4 86	4 86	78-4	78-4	78-4
Cornwall.....	12 60	4 86	4 86	4 59	38-6	38-6	36-4
Delhi.....	14 65	11 45	11 45	11 45	78-2	78-2	78-2
Deseronto.....	14 40	5 94	5 94	5 94	41-3	41-3	41-3
Dundas.....	6 39	2 16	2 46	2 46	33-8	38-5	38-5
Dundalk.....	25 45	2 46	2 46	2 46	9-7	9-7	9-7
Dunnville.....	11 05	3 54	3 54	3 48	32-0	32-0	31-5
Elk Lake.....	10 72	14 65	14 65	14 65	136-7	136-7	136-7
Elmhurst.....	10 53	3 93	3 93	2 46	37-3	37-3	23-4
Exeter.....	18 25	3 00	3 00	3 48	16-4	16-4	19-1
Fergus.....	18 25	2 46	2 46	3 27	13-5	13-5	17-9
Forest.....	18 25	4 64	4 64	4 44	25-4	25-4	24-3
Fort Erie.....	6 62	4 19	3 44	3 08	63-3	52-0	46-5
Fort William.....	8 10	4 86	4 86	4 86	60-0	60-0	60-0
Gananoque.....	11 80	4 34	4 34	4 34	36-8	36-8	36-8
Georgetown.....	4 86	2 43	2 43	2 46	50-0	50-0	50-6
Galt.....	6 00	2 82	3 06	3 06	47-0	51-0	51-0
Goderich.....	7 83	3 33	3 33	3 47	42-5	42-5	44-3
Grand Valley.....	18 25	5 16	5 16	4 98	28-3	28-3	27-3
Guelph.....	6 40	2 70	2 46	2 46	42-2	38-4	38-4
Hagersville.....	5 40	2 46	2 46	2 46	45-6	45-6	45-6
Hamilton.....	5 58	2 70	2 70	2 75	48-4	48-4	49-3
Hastings.....	18 25	5 25	5 25	4 95	28-8	28-8	27-1
Hawkesbury.....	14 60	9 00	9 00	9 00	61-6	61-6	61-6
Hensall.....	21 85	4 75	4 45	4 44	21-7	20-4	20-3
Hespeler.....	16 33	3 33	2 46	2 46	20-4	15-1	15-1
Ingersoll.....	8 01	2 70	2 70	2 67	33-7	33-7	33-3
Kingston.....	16 35	3 78	3 78	3 78	23-1	23-1	23-1
Kitchener.....	6 39	2 70	2 70	2 73	42-3	42-3	42-7
Lambeth.....	7 02	4 62	4 62	4 44	65-8	65-8	63-2
London.....	8 10	2 70	2 70	2 70	33-3	33-3	33-3
Listowel.....	18 00	3 78	2 46	3 00	21-0	13-6	16-7
L'Orignal.....	18 20	18 20	18 20	18 20	100-0	100-0	100-0
Lynden.....	5 36	3 51	3 51	3 47	65-5	65-5	64-7
Markdale.....	18 00	3 00	3 00	3 00	16-7	16-7	16-7
Midland.....	4 80	2 46	2 46	2 46	51-3	51-3	51-3
Millbrook.....	14 40	5 40	5 40	5 40	37-5	37-5	37-5
Mimico.....	7 20	2 46	2 46	2 46	34-2	34-2	34-2
Napanee.....	14 40	4 86	4 86	4 86	33-8	33-8	33-8
Mount Forest.....	18 00	2 54	2 54	4 44	14-1	14-1	24-7
Neustadt.....	7 56	5 70	5 70	6 78	75-4	75-4	89-7
Newmarket.....	18 15	2 03	2 03	2 03	11-2	11-2	11-2
Newburg.....	21 60	5 40	5 40	5 40	25-0	25-0	25-0
New Hamburg.....	4 68	2 46	2 46	2 46	52-6	52-6	52-6
Niagara Falls.....	7 20	2 70	2 70	2 70	37-5	37-5	37-5
Norwich.....	7 02	2 16	2 16	2 16	30-7	30-7	30-7
Orillia.....	2 40	2 32	2 32	2 32	96-7	96-7	96-7
Orono.....	14 40	5 67	5 67	5 67	39-4	39-4	39-4
Oshawa.....	14 40	3 78	3 78	3 78	26-3	26-3	26-3
Ottawa.....	5 58	2 43	2 43	2 43	43-5	43-5	43-5
Otterville.....	10 26	5 41	5 41	5 41	52-6	52-7	52-7
Owen Sound.....	13 11	2 70	2 46	2 46	20-6	18-8	18-8
Paris.....	6 48	2 43	2 43	3 00	37-5	37-5	46-3
Pembroke.....	14 40	5 40	5 40	5 40	37-5	37-5	37-5
Penetanguishene.....	8 64	2 46	2 46	2 42	28-5	28-5	28-0

ONTARIO—Concluded—ONTARIO—fin

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 180 KILOWATT-HEURES—fin

Perth.....	17 95	3 54	3 54	3 54	19.7	19.7	19.7
Peterboro.....	3 24	3 24	3 24	2 64	100.0	100.0	81.4
Pictou.....	11 72	4 86	4 86	3 00	41.5	41.5	25.6
Port Arthur.....	4 77	2 70	2 70	2 70	56.6	56.6	56.6
Port Hope.....	8 20	4 86	4 86	4 86	59.3	59.3	59.3
Prescott.....	16 20	2 46	2 46	2 46	15.2	15.2	15.2
Preston.....	7 20	3 24	3 24	3 27	45.0	45.0	45.4
Rainy River.....	20 05	23 65	23 65	23 65	118.0	118.0	118.0
Renfrew.....	15 88	3 06	3 06	4 32	19.3	19.3	27.2
Richmond Hill.....	11 88	4 50	4 50	4 89	37.9	37.9	41.2
Ridgetown.....	18 00	3 24	2 46	2 46	18.0	13.7	13.7
Sault Ste. Marie.....	7 65	3 60	3 60	3 20	47.1	47.1	41.8
Seaforth.....	24 48	3 51	3 51	3 27	14.3	14.3	13.4
Shelburne.....	18 75	5 10	5 10	4 44	27.2	27.2	23.7
Smith's Falls.....	13 10	4 62	4 62	4 98	35.3	35.3	38.0
Stouffville.....	22 65	7 02	7 02	4 98	31.0	31.0	22.0
Strathroy.....	21 80	2 46	2 46	3 00	11.3	11.3	13.8
Stratford.....	8 01	3 58	3 58	3 58	44.7	44.7	44.7
Streetsville.....	14 60	12 60	12 60	8 86	86.3	86.3	60.7
St. Catharines.....	10 71	2 70	2 70	2 70	25.2	25.2	25.2
St. Marys.....	8 82	3 00	3 00	3 27	34.0	34.0	37.1
St. Thomas.....	6 40	2 70	2 46	2 46	42.2	38.4	38.4
Sudbury.....	16 35	13 16	13 16	13 16	80.5	80.5	80.5
Thamesford.....	10 44	5 10	5 10	4 90	48.9	48.9	46.9
Thamesville.....	18 25	3 54	3 54	3 47	19.4	19.4	19.0
Tavistock.....	21 60	3 24	3 24	3 00	15.0	15.0	13.9
Teeswater.....	21 60	5 40	5 40	5 16	25.0	25.0	23.9
Theodford.....	18 25	5 70	5 70	4 98	31.2	31.2	27.3
Thessalon.....	14 57	18 17	18 17	18 17	124.7	124.7	124.7
Thorold.....	5 44	2 46	2 46	2 46	45.2	45.2	45.2
Tilbury.....	18 00	4 86	3 54	3 18	27.0	19.7	17.7
Toronto.....	5 58	2 70	2 70	2 70	48.4	48.4	48.4
Trenton.....	13 02	3 78	3 78	3 78	29.0	29.0	29.0
Tweed.....	14 40	5 40	5 40	5 40	37.5	37.5	37.5
Uxbridge.....	18 25	6 33	6 33	4 76	34.7	34.7	26.1
Yankleek Hill.....	19 07	8 54	8 54	7 14	44.8	44.8	37.4
Victoria Harbour.....	16 33	5 16	5 16	3 48	31.6	31.6	21.3
Walkerville.....	8 80	3 00	3 00	3 00	34.1	34.1	34.1
Wallaceburg.....	19 05	3 00	3 00	3 00	15.7	15.7	15.7
Waterford.....	5 94	2 46	2 46	2 46	41.4	41.4	41.4
Waterloo.....	7 20	2 46	2 46	2 46	34.2	34.2	34.2
Welland.....	4 65	2 70	2 70	3 00	58.1	58.1	64.5
Weston.....	7 20	2 70	2 70	2 70	37.5	37.5	37.5
Whitby.....	11 88	3 12	3 12	3 12	26.3	26.3	26.3
Winchester.....	27 00	4 05	4 05	4 05	15.0	15.0	15.0
Windsor.....	14 40	3 78	3 00	3 00	26.3	20.8	20.8
Wingham.....	18 00	9 00	9 00	9 00	50.0	50.0	50.0
Woodstock.....	6 00	2 70	2 70	2 68	45.0	45.0	44.7

MANITOBA

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 15 KILOWATT-HEURES

Boisvevain.....	* 3 22	* 3 25	* 3 25	* 3 25	111.3	111.3	111.3 A
Brandon.....	* 1 68	* 1 68	* 1 68	* 1 68	100.0	100.0	100.0
Carman.....	* 2 65	* 2 50	* 2 50	* 2 50	94.3	94.3	94.3
Carberry.....	* 2 43	* 3 15	* 3 15	* 3 15	129.6	129.6	129.6 A
Dauphin.....	* 2 10	* 2 35	* 2 35	* 2 35	111.9	111.9	111.9
Neopawa.....	* 2 55	* 2 55	* 2 55	* 2 55	100.0	100.0	100.0
Portage La Prairie.....	* 2 13	* 1 62	* 1 62	* 1 62	76.1	76.1	76.1
Reston.....	* 4 15	* 4 45	* 4 45	* 4 40	107.2	107.2	96.4 A
Shoal Lake.....	* 2 25	* 4 00	* 4 00	* 4 00	177.8	177.8	177.8 A
Winnipeg.....	\$† 50	\$† 50	\$† 50	\$† 50	100.0	100.0	100.0

Legend:—

- * Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

- Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

CENSUS OF INDUSTRY

MANITOBA—Concluded—MANITOBA—fin

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Boiseshain.....	3 82	4 25	4 25	4 25	111.3	111.3	111.3
Brandon.....	2 15	2 15	2 15	2 15	100.0	100.0	100.0
Carman.....	3 45	3 25	3 25	3 25	94.2	94.2	94.2
Carberry.....	3 19	4 15	4 15	4 15	130.1	130.1	130.1
Dauphin.....	2 80	3 05	3 05	3 05	108.9	108.9	108.9
Portage La Prairie.....	2 85	2 16	2 16	2 16	75.8	75.8	75.8
Neepawa.....	3 30	3 30	3 30	3 30	100.0	100.0	100.0
Reston.....	5 45	5 85	5 85	5 25	107.3	107.3	96.3
Shoal Lake.....	3 00	5 25	5 25	5 25	175.0	175.0	175.0
Winnipeg.....	60	60	60	60	100.0	100.0	100.0

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Boiseshain.....	7 42	8 25	8 25	8 25	111.2	111.2	111.2
Brandon.....	4 05	4 05	4 05	4 05	100.0	100.0	100.0
Carman.....	6 65	6 25	6 25	6 25	93.9	93.9	93.9
Carberry.....	6 25	8 15	8 15	8 15	130.4	130.4	130.4
Dauphin.....	5 60	5 85	5 85	5 85	104.5	104.5	104.5
Neepawa.....	6 30	6 30	6 30	6 30	100.0	100.0	100.0
Portage La Prairie.....	5 70	4 32	4 32	4 32	75.8	75.8	75.8
Reston.....	10 65	11 45	11 45	10 25	107.5	107.5	96.2
Shoal Lake.....	6 00	10 25	10 25	10 25	170.8	170.8	170.8
Winnipeg.....	1 20	1 20	1 20	1 20	100.0	100.0	100.0

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Boiseshain.....	11 02	12 25	12 25	12 25	111.2	111.2	111.2
Brandon.....	5 95	5 95	5 95	5 95	100.0	100.0	100.0
Carman.....	9 85	9 25	9 25	9 25	93.9	93.9	93.9
Carberry.....	9 31	10 95	10 95	10 95	117.6	117.6	117.6
Dauphin.....	8 40	8 65	8 65	8 65	103.0	103.0	103.0
Neepawa.....	9 30	9 30	9 30	9 30	100.0	100.0	100.0
Portage La Prairie.....	8 55	6 48	6 48	6 48	75.8	75.8	75.8
Reston.....	15 85	17 05	17 05	15 25	107.6	107.6	96.2
Shoal Lake.....	9 00	15 25	15 25	15 25	169.4	169.4	169.4
Winnipeg.....	1 80	1 80	1 80	1 80	100.0	100.0	100.0

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 180 KILOWATT-HEURES

Boiseshain.....	32 62	36 25	36 25	36 25	111.1	111.1	111.1
Brandon.....	17 35	17 35	17 35	17 35	100.0	100.0	100.0
Carman.....	29 05	27 25	27 25	27 25	93.8	93.8	93.8
Carberry.....	27 67	27 75	27 75	27 75	100.3	100.3	100.3
Dauphin.....	25 20	25 45	25 45	25 45	101.0	101.0	101.0
Neepawa.....	27 30	27 30	27 30	27 30	100.0	100.0	100.0
Portage La Prairie.....	25 65	9 54	9 54	9 54	37.2	37.2	37.2
Reston.....	47 05	50 65	50 65	45 25	107.7	107.7	96.2
Shoal Lake.....	27 00	45 25	45 25	45 25	167.6	167.6	167.6
Winnipeg.....	3 72	3 72	3 72	3 72	100.0	100.0	100.0

SASKATCHEWAN

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 15 KILOWATT-HEURES

Arcola.....	† 2 92	† 3 00	† 3 00	† 3 00	102.7	102.7	102.7
Battleford.....	† 1 95	* 2 04	* 2 04	* 2 04	104.6	104.6	104.6
Canora.....	* 3 20	* 3 25	* 3 25	* 3 25	101.6	101.6	101.6
Davidson.....	* 2 60	* 2 95	* 2 95	* 2 65	118.0	118.0	106.0
Govan.....	* 3 85	* 3 70	* 3 75	* 3 75	96.1	97.4	97.4
Grenfell.....	* 2 48	* 2 80	* 2 80	* 2 80	112.9	112.9	112.9

Legend:—

- * Supplied by Municipal Fuel Plant.
- † Supplied by Municipal Water Power Plant.
- ‡ Supplied by Commercial Fuel Plant.
- § Supplied by Commercial Water Power Plant.

Légende:—

- Fourni par l'usine municipale à combustible.
- Fourni par l'usine municipale hydraulique.
- Fourni par l'usine commerciale à combustible.
- Fourni par l'usine commerciale hydraulique.

SASKATCHEWAN—Continued—SASKATCHEWAN—suite

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 15 KILOWATT-HEURES—fin

Gull Lake.....	* 2 95	* 4 50	* 4 50	* 4 50	152.5	152.5	152.5
Herbert.....	+ 2 65	2 65	+ 2 65	+ 3 25	100.0	100.0	122.6
Indian Head.....	+ 2 50	2 65	+ 2 65	+ 2 65	106.0	103.0	106.0
Kindersley.....	* 2 16	* 2 95	* 3 05	* 2 70	136.6	141.2	125.0
Lumsden.....	+ 2 92	* 3 25	* 3 25	* 3 25	111.3	111.3	111.3 A
Maple Creek.....	+ 3 25	+ 3 25	+ 3 25	+ 3 25	100.0	100.0	100.0 A
Melville.....	* 2 11	* 2 95	* 2 95	* 2 95	139.8	139.8	139.8 A
Moose Jaw.....	* 1 30	* 1 60	* 1 60	* 1 60	123.1	123.1	123.1
North Battleford.....	* 1 75	* 1 60	* 1 60	* 1 50	91.4	91.4	85.7
Prince Albert.....	* 1 14	* 1 80	* 1 80	* 1 80	157.9	157.9	157.9
Qu'Appelle.....	+ 3 15	+ 4 25	+ 4 25	+ 4 25	134.9	134.9	134.9 A
Raddison.....	+ 2 95	* 4 00	* 4 05	* 4 05	135.6	137.3	137.3 A
Regina.....	* 1 44	1 40	* 1 26	* 1 26	97.2	90.0	90.0
Saltcoats.....	* 2 50	* 2 50	* 2 85	* 2 85	112.0	114.0	114.0 A
Saskatoon.....	* 1 20	* 1 20	* 1 20	* 1 20	100.0	100.0	100.0
Scott.....	* 2 50	* 2 50	* 2 50	* 3 25	100.0	100.0	130.0 A
Semans.....	+ 4 25	+ 4 25	+ 4 25	+ 4 25	100.0	100.0	100.0
Tenenen.....	† Flat rate—First light \$1.00				100.0	100.0	100.0
	Each additional light 50c.						
Strassburg.....	+ 3 10	+ 3 10	+ 3 10	+ 3 10	100.0	100.0	100.0
Vatrous.....	+ 2 80	+ 2 80	+ 2 80	+ 2 80	100.0	100.0	100.0 A
Veyburn.....	* 5 00	* 2 02	* 2 02	* 2 02	40.4	40.4	40.4
Volseley.....	* 2 92	* 3 00	* 3 00	* 3 00	102.7	102.7	102.7
Yorkton.....	* 1 62	* 2 16	* 2 16	* 2 16	133.3	133.3	133.3 A

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Carroll.....	3 82	4 00	4 00	4 00	104.7	104.7	104.7
Battleford.....	2 55	2 72	2 72	2 72	106.7	106.7	106.7 A
Canora.....	4 20	4 25	4 25	4 25	101.2	101.2	101.2 A
Davidson.....	3 25	3 85	3 85	3 45	118.5	118.5	106.2 A
Govan.....	5 10	5 10	5 10	5 10	100.0	100.0	100.0
Griffell.....	3 28	3 70	3 70	3 70	112.8	112.8	112.8
Gull Lake.....	3 85	5 75	5 75	5 75	149.4	149.4	149.4 A
Herbert.....	3 45	3 45	3 45	4 25	100.0	100.0	123.2 A
Indian Head.....	3 25	3 45	3 45	3 45	106.2	106.2	106.2 A
Kindersley.....	2 88	4 40	4 55	3 60	152.8	158.0	125.0 A
Lumsden.....	3 82	4 25	4 25	4 25	111.3	111.3	111.3
Maple Creek.....	4 25	4 25	4 25	4 25	100.0	100.0	100.0
Melville.....	2 74	3 85	3 85	3 85	100.0	100.0	100.0
Moose Jaw.....	1 66	1 95	1 95	1 95	117.5	117.5	117.5 A
North Battleford.....	2 30	2 10	2 10	2 00	91.3	91.3	87.0
Prince Albert.....	1 52	2 25	2 25	2 25	148.0	148.0	148.0 A
Qu'Appelle.....	4 05	5 50	5 50	5 50	135.8	135.8	135.8
Raddison.....	3 85	4 10	4 10	4 10	106.5	106.5	106.5 A
Regina.....	1 85	1 71	1 53	1 53	92.4	82.7	82.7
Saltcoats.....	3 25	3 90	4 00	4 00	120.0	123.1	123.1
Saskatoon.....	1 62	1 60	1 60	1 60	98.8	98.8	98.8 A
Scott.....	3 25	3 25	3 25	4 25	100.0	100.0	130.8
Semans.....	5 50	5 70	5 70	5 70	103.6	103.6	103.6 A
Strassburg.....	4 05	4 05	4 05	4 05	100.0	100.0	100.0
Vatrous.....	3 65	3 65	3 65	3 65	100.0	100.0	100.0
Veyburn.....	5 00	2 48	2 48	2 48	49.6	49.6	49.6
Volseley.....	3 82	4 00	4 00	4 00	104.7	104.7	104.7
Yorkton.....	2 16	2 88	2 88	2 88	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Carroll.....	7 42	8 00	8 00	8 00	107.8	107.8	107.8
Battleford.....	4 95	5 44	5 44	5 44	109.9	109.9	109.9
Canora.....	8 20	8 25	8 25	8 25	100.6	100.6	100.6
Davidson.....	6 25	7 45	7 45	6 65	119.2	119.2	106.4
Govan.....	10 10	10 00	10 00	10 00	99.0	99.0	99.0
Griffell.....	6 48	7 30	7 30	7 30	112.7	112.7	112.7
Gull Lake.....	7 45	10 75	10 75	10 75	144.3	144.3	144.3
Herbert.....	8 65	6 65	6 65	8 25	100.0	100.0	123.1
Indian Head.....	6 05	6 65	6 65	6 65	109.9	109.9	109.9
Kindersley.....	5 76	8 80	9 10	7 20	152.8	157.9	125.0
Lumsden.....	7 42	8 25	8 25	8 25	111.2	111.2	111.2
Maple Creek.....	8 25	8 25	8 25	8 25	100.0	100.0	100.0
Melville.....	5 26	7 45	7 45	7 45	141.6	141.6	141.6

Legend:—

* Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

CENSUS OF INDUSTRY

SASKATCHEWAN—Concluded—SASKATCHEWAN—fin

Municipality Municipalité	Monthlr Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			
MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—Concluded—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES—fin							
North Battleford.....	4 50	4 10	4 10	3 90	91.1	91.1	86.7 A
Qu'Appelle.....	7 65	10 50	10 50	10 50	137.3	137.3	137.3
Raddison.....	7 45	5 80	5 80	5 80	77.9	77.9	77.9
Regina.....	3 47	2 79	2 43	2 43	80.4	70.0	70.0
Saltcoats.....	6 25	8 50	9 00	9 00	136.0	144.0	144.0
Saskatoon.....	3 24	3 20	3 20	3 20	98.8	98.8	98.8
Scott.....	6 25	6 25	6 25	8 25	100.0	100.0	132.0
Semans.....	10 50	10 90	10 80	10 80	13.8	102.9	102.9
Strassburg.....	7 85	7 85	7 85	7 85	100.0	100.0	100.0 A
Watrous.....	7 05	7 05	7 05	7 05	100.0	100.0	100.0
Weyburn.....	5 00	4 27	4 27	4 27	85.4	85.4	85.4 A
Wolseley.....	7 42	5 00	5 00	5 00	67.4	67.4	67.4 A
Prince Albert.....	3 04	4 05	4 05	4 05	133.2	133.2	133.2
Moose Jaw.....	3 10	3 20	3 20	3 20	103.2	103.2	103.2
Yorkton.....	4 32	5 76	5 76	5 76	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Arcola.....	11 02	12 00	12 00	12 00	108.9	108.9	108.9
Battleford.....	7 35	8 16	8 16	8 16	111.0	111.0	111.0
Canora.....	12 20	12 25	12 25	12 25	100.4	100.4	100.4
Davidson.....	9 25	11 05	11 05	9 85	119.5	119.5	106.5
Govan.....	15 10	14 00	14 00	14 00	92.7	92.7	92.7
Grenfell.....	9 68	10 90	10 90	10 90	112.6	112.6	112.6
Gull Lake.....	11 05	15 75	15 75	15 75	142.5	142.5	142.5
Herbert.....	9 85	9 85	9 85	12 25	100.0	100.0	124.4
Indian Head.....	8 65	9 60	9 60	9 60	111.0	111.0	111.0
Kindersley.....	8 46	13 00	15 40	10 62	153.7	182.0	125.5
Lumsden.....	11 02	12 25	12 25	12 25	111.2	111.2	111.2
Maple Creek.....	12 25	12 25	12 25	12 25	100.0	100.0	100.0
Melville.....	7 78	11 05	11 05	11 05	142.0	142.0	142.0
Moose Jaw.....	4 55	4 35	4 35	4 35	95.6	95.6	95.6
North Battleford.....	6 70	6 10	6 10	5 80	91.0	91.0	86.6
Prince Albert.....	4 56	5 85	5 85	5 85	128.3	128.3	128.3
Qu'Appelle.....	11 25	15 50	15 50	15 50	137.8	137.8	137.8
Raddison.....	11 05	6 15	6 20	6 20	55.7	56.1	56.1
Regina.....	5 09	3 87	3 33	3 33	76.0	65.4	65.4 A
Saltcoats.....	9 25	12 00	13 00	13 00	129.7	140.5	140.5
Saskatoon.....	4 86	4 80	4 80	4 80	98.8	98.8	98.8
Scott.....	9 25	9 25	9 25	12 25	100.0	100.0	132.4
Semans.....	15 50	16 40	16 20	16 20	105.8	104.5	104.5
Strassburg.....	10 15	10 15	10 15	10 15	100.0	100.0	100.0
Watrous.....	10 45	10 45	10 45	10 45	100.0	100.0	100.0
Weyburn.....	5 00	5 90	5 90	5 90	118.0	118.0	118.0
Wolseley.....	11 02	8 00	8 00	8 00	72.6	72.6	72.6
Yorkton.....	6 48	8 64	8 64	8 64	133.3	133.3	133.3

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 180 KILOWATT-HEURES

Arcola.....	32 62	36 00	36 00	36 00	110.4	110.4	110.4
Battleford.....	20 95	23 84	23 84	23 84	113.8	113.8	113.8
Canora.....	36 20	36 25	36 25	36 25	100.1	100.1	100.1
Davidson.....	27 25	31 00	31 00	27 12	113.8	113.8	99.5
Govan.....	45 10	42 00	42 00	42 00	93.1	93.1	93.1
Grenfell.....	28 88	32 50	32 50	32 50	112.5	112.5	112.5
Gull Lake.....	32 65	45 75	45 75	45 75	140.1	140.1	140.1
Herbert.....	29 05	29 05	29 05	31 05	100.0	100.0	106.9
Indian Head.....	24 25	27 25	27 25	27 25	112.4	112.4	112.4
Kindersley.....	22 86	37 85	42 10	28 62	165.6	184.2	125.2
Lumsden.....	32 62	36 25	36 25	36 25	111.1	111.1	111.1
Maple Creek.....	34 65	34 65	34 65	45 65	100.0	100.0	100.0
Melville.....	22 90	32 65	32 65	32 65	142.6	142.6	142.6
Moose Jaw.....	13 36	8 70	8 70	8 70	65.1	65.1	65.1
North Battleford.....	19 10	17 30	17 30	16 45	90.6	90.6	86.1
Prince Albert.....	12 96	15 93	15 93	15 93	122.9	122.9	122.9
Qu'Appelle.....	32 85	45 50	45 50	45 50	138.5	138.5	138.5
Raddison.....	32 65	45 00	45 00	45 00	137.8	137.8	137.8
Regina.....	14 81	10 35	8 73	8 73	69.9	58.9	58.9
Saltcoats.....	27 25	41 00	43 00	43 00	150.5	157.8	157.8
Saskatoon.....	13 59	13 30	13 30	13 30	97.9	97.9	97.9
Scott.....	27 25	27 25	27 25	36 25	100.0	100.0	136.0
Semans.....	45 50	43 20	43 20	43 20	94.9	94.9	94.9
Strassburg.....	19 80	19 80	19 80	19 80	100.0	100.0	100.0
Watrous.....	27 25	27 25	27 25	27 25	100.0	100.0	100.0
Weyburn.....	9 00	12 38	12 38	12 38	137.6	137.6	137.6
Wolseley.....	32 62	18 00	18 00	18 00	55.2	55.2	55.2
Yorkton.....	19 44	25 92	25 92	25 92	133.3	133.3	133.3

CENTRAL ELECTRIC STATIONS

63

ALBERTA

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 15 KILOWATT-HEURES

Banff.....	+ 1 65	+ 1 65	+ 1 53	+ 1 53	100-0	92-7	92-7
Calgary.....	* 1 92	* 1 00	* 1 00	* 77	52-1	52-1	40-1
Claresholm.....	* 2 11	* 3 66	* 3 66	* 3 66	173-5	173-5	173-5 A
Cardston.....	* 2 05	* 2 65	* 2 65	* 2 65	129-3	129-3	129-3 A
Cochrane.....	† Flat rate—50c. per 25 W. lamp.				100-0	100-0	100-0 A
Edmonton.....	* 1 14	* 1 14	* 1 14	* 1 14	100-0	100-0	100-0
Ft. Saskatchewan.....	* 2 38	* 2 38	* 2 38	* 2 38	100-0	100-0	100-0
High River.....	* 2 51	* 2 43	* 2 43	* 1 62	96-8	96-8	64-5
Hillcrest.....	* 2 75	* 2 25	* 2 25	* 2 25	81-8	81-8	81-8
Gleichen.....	* 5 25	* 3 75	* 2 93	* 2 93	71-4	55-8	55-8 A
Lethbridge.....	* 1 20	* 1 62	* 1 62	* 1 62	135-0	135-0	135-0
MacLeod.....	* 1 62	* 2 93	* 2 70	* 2 40	180-9	166-6	148-1
Medicine Hat.....	* 1 20	* 1 50	* 1 50	* 1 50	125-0	125-0	125-0
Raymond.....	* 2 19	* 2 10	* 2 10	* 2 10	95-9	95-9	95-9
Wetaskiwin.....	* 2 52	* 2 70	* 2 70	* 2 70	107-1	107-1	107-1 A

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 20 KILOWATT-HEURES

Banff.....	2 12	2 12	1 95	1 95	100-0	92-0	92-0 A
Calgary.....	2 25	1 08	1 08	90	48-0	48-0	40-0
Claresholm.....	2 79	4 06	4 06	4 06	145-5	145-5	145-5
Cardston.....	2 65	3 45	3 45	3 45	130-2	130-2	130-2
Edmonton.....	1 52	1 52	1 52	1 52	100-0	100-0	100-0
Ft. Saskatchewan.....	3 10	3 10	3 10	3 10	100-0	100-0	100-0
High River.....	3 23	3 24	3 24	2 16	100-3	100-3	66-9 A
Hillcrest.....	3 50	3 00	3 00	3 00	85-7	85-7	85-7 A
Gleichen.....	6 50	5 00	3 83	3 83	76-9	58-9	58-9
Lethbridge.....	1 60	2 16	2 16	2 16	135-0	135-0	135-0
MacLeod.....	2 16	3 60	3 60	3 20	166-7	166-7	148-1 A
Medicine Hat.....	1 60	2 00	2 00	2 00	125-0	125-0	125-0 A
Raymond.....	2 89	2 80	2 80	2 80	96-9	96-9	96-9 A
Wetaskiwin.....	3 28	3 60	3 60	3 60	109-8	109-8	109-8

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 40 KILOWATT-HEURES

Banff.....	3 99	3 99	3 65	3 65	100-0	91-5	91-5
Calgary.....	3 60	2 16	2 16	1 80	60-0	60-0	50-0
Claresholm.....	5 99	8 16	8 16	8 16	136-2	136-2	136-2
Cardston.....	5 05	6 65	6 65	6 65	131-7	131-7	131-7
Edmonton.....	3 04	3 04	3 04	3 04	100-0	100-0	100-0 A
Ft. Saskatchewan.....	5 98	5 98	5 98	5 98	100-0	100-0	100-0 A
High River.....	6 11	6 48	6 48	3 78	103-1	106-1	61-9
Hillcrest.....	6 50	6 00	6 00	6 00	92-3	92-3	92-3
Gleichen.....	11 50	10 00	7 43	7 43	86-9	64-6	64-6
Lethbridge.....	3 20	4 32	4 32	4 32	135-0	135-0	135-0 A
MacLeod.....	4 32	7 20	7 20	6 40	166-7	166-7	148-1
Medicine Hat.....	3 20	4 00	4 00	4 00	125-0	125-0	125-0
Raymond.....	5 69	5 60	5 60	5 60	98-4	98-4	98-4
Wetaskiwin.....	6 32	7 20	7 20	7 20	113-9	113-9	113-9

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSUMMATION MENSUELLE DE 60 KILOWATT-HEURES

Banff.....	5 86	5 53	5 05	5 05	94-4	86-2	86-2
Calgary.....	4 95	3 24	3 24	2 70	65-5	65-5	54-5
Claresholm.....	8 19	12 24	12 24	12 24	149-5	149-5	149-5
Cardston.....	7 45	9 85	9 85	9 05	132-2	132-2	121-5
Edmonton.....	4 56	4 56	4 56	4 56	100-0	100-0	100-0
Ft. Saskatchewan.....	8 86	8 86	8 86	8 86	100-0	100-0	100-0
High River.....	8 99	9 72	9 72	4 86	108-1	108-1	54-1
Hillcrest.....	9 50	9 00	9 00	9 00	94-7	94-7	94-7
Gleichen.....	16 50	15 00	11 03	11 03	90-9	66-8	66-8
Lethbridge.....	4 80	6 48	6 48	6 48	135-0	135-0	135-0
MacLeod.....	6 48	10 80	10 80	9 60	166-6	166-6	148-1
Medicine Hat.....	4 80	6 00	6 00	6 00	125-0	125-0	125-0
Raymond.....	8 49	8 40	8 40	8 40	98-9	98-9	98-9
Wetaskiwin.....	9 36	10 80	10 80	10 80	115-4	115-4	115-4

Legend:—

Légende:—

* Supplied by Municipal Fuel Plant.

† Supplied by Municipal Water Power Plant.

‡ Supplied by Commercial Fuel Plant.

§ Supplied by Commercial Water Power Plant.

Fourni par l'usine municipale à combustible.

Fourni par l'usine municipale à combustible.

Fourni par l'usine commerciale à combustible.

Fourni par l'usine commerciale hydraulique.

CENSUS OF INDUSTRY

ALBERTA—Concluded—ALBERTA—fin

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1923	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES

Banff.....	17 08	16 09	14 65	14 65	94.2	85.8	85.8
Calgary.....	13 05	9 72	9 72	8 10	74.5	74.5	62.1
Clareholm.....	24 39	36 72	36 72	36 72	150.6	150.6	150.6
Cardston.....	21 85	29 05	29 05	20 25	133.0	133.0	92.7
Edmonton.....	12 80	13 68	13 68	13 68	106.9	106.9	106.9
Ft. Saskatchewan.....	26 14	26 14	26 14	26 14	100.0	100.0	100.0
High River.....	26 10	29 16	29 16	11 34	111.7	111.7	43.4
Hillcrest.....	27 50	27 00	27 00	27 00	98.2	98.2	98.2
Gleichen.....	46 50	45 00	32 63	32 63	96.8	70.2	70.2
Lethbridge.....	13 76	17 82	17 82	17 82	129.5	129.5	129.5
MacLeod.....	19 44	32 10	32 10	27 00	165.1	165.1	138.9
Medicine Hat.....	14 40	18 00	18 00	18 00	125.0	125.0	125.0
Raymond.....	25 29	25 20	25 20	25 20	99.6	99.6	99.6
Wetaskiwin.....	27 60	32 40	32 40	32 40	117.4	117.4	117.4

BRITISH COLUMBIA—COLOMBIE BRITANNIQUE

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES

Alberni.....	* 1 71	* 2 65	* 2 48	* 2 48	155.0	145.0	145.0 A
Chase.....	2 35	2 35	2 35	2 35	100.0	100.0	100.0 A
Cumberland.....	1 89	1 80	1 80	1 80	95.2	95.2	95.2
Ferne.....	2 16	1 50	1 50	1 50	69.4	69.4	69.4
Duncan.....	2 40	2 10	2 10	2 10	87.5	87.5	87.5 A
Kamloops.....	2 20	2 20	2 20	2 20	100.0	100.0	100.0
Kelowna.....	1 80	1 80	1 80	1 95	100.0	100.0	108.3
Nanaimo.....	2 02	1 75	1 75	1 75	86.6	86.6	86.6 A
Nelson.....	1 60	1 60	1 60	1 60	100.0	100.0	100.0
New Westminster.....	1 33	1 08	1 08	1 08	81.2	81.2	81.2
Port Alberni.....	1 57	1 87	1 87	1 87	119.1	119.1	119.1 A
Prince George.....	3 55	2 89	2 89	2 89	81.4	81.4	81.4 A
Prince Rupert.....	2 50	2 50	2 50	2 50	100.0	100.0	100.0 A
Revelstoke.....	2 65	1 04	1 05	1 05	39.2	39.6	39.6
Rossland.....	1 68	2 05	2 05	2 05	122.0	122.0	122.0
Summerland.....	1 57	1 35	1 35	1 60	86.0	86.0	101.9
Vancouver.....	3 00	1 89	1 89	1 89	63.0	63.0	63.0
Victoria.....	1 44	75	75	68	52.1	52.1	47.2
	1 53	1 25	1 25	1 25	84.5	84.5	84.5

MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 20 KILOWATT-HEURES

Alberni.....	2 20	2 91	2 78	2 78	132.2	126.3	126.3
Chase.....	3 05	3 05	3 05	3 05	100.0	100.0	100.0
Cumberland.....	2 52	2 34	2 34	2 34	92.9	92.9	92.9 A
Ferne.....	2 83	1 95	1 95	1 95	68.9	68.9	68.9
Duncan.....	3 20	2 75	2 75	2 70	85.9	85.9	84.4
Kamloops.....	2 85	2 85	2 85	2 85	100.0	100.0	100.0 A
Kelowna.....	2 40	2 15	2 15	2 35	89.6	89.6	97.9 A
Nanaimo.....	2 65	2 29	2 29	2 29	86.4	86.4	86.4
Nelson.....	2 05	2 05	2 05	2 05	100.0	100.0	100.0 A
New Westminster.....	1 76	1 44	1 44	1 44	81.8	81.8	81.8
Port Alberni.....	2 01	2 41	2 41	2 41	123.0	123.0	123.0
Prince George.....	4 65	3 77	3 77	3 77	81.1	81.1	81.1
Prince Rupert.....	3 25	3 25	3 25	3 25	100.0	100.0	100.0
Revelstoke.....	3 46	1 38	1 40	1 40	39.9	40.5	40.5
Rossland.....	2 20	2 50	2 50	2 50	113.6	113.6	113.6 A
Summerland.....	2 02	1 80	1 80	2 05	89.1	89.1	101.5 A
Vancouver.....	3 00	2 52	2 52	2 52	84.0	84.0	84.0 A
Victoria.....	1 89	1 00	1 00	90	52.9	52.9	47.6
	1 92	1 60	1 60	1 60	83.3	83.3	83.3

Legend:—

* Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—

Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

BRITISH COLUMBIA—Concluded—COLOMBIE BRITANNIQUE—fin

Municipality — Municipalité	Monthly Bills — Comptes mensuels				Index Numbers — Nombres indices		
	1913	1924	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 40 KILOWATT-HEURES

Alberni.....	4 18	4 71	4 62	4 62	112.7	110.5	110.5
Chase.....	5 85	5 85	5 85	5 85	100.0	100.0	100.0
Cumberland.....	4 95	4 59	4 59	4 59	92.7	92.7	92.7
Fernie.....	5 53	3 21	3 21	3 21	58.0	58.0	58.0 A
Duncan.....	6 40	5 30	5 30	5 25	82.8	82.8	82.0
Kamloops.....	5 45	5 45	5 45	5 45	100.0	100.0	100.0
Kelowna.....	4 80	3 55	3 55	3 95	74.0	74.0	82.3
Nanaimo.....	5 08	4 36	4 36	4 45	85.8	85.8	87.6
Nelson.....	2 96	2 96	2 96	2 50	100.0	100.0	84.5
New Westminster.....	3 52	2 88	2 88	2 88	81.8	81.8	81.8 A
Port Alberni.....	3 72	4 57	4 57	4 57	122.8	122.8	122.8
Prince George.....	9 05	7 29	7 29	7 29	80.6	80.6	80.6
Princeton.....	6 25	6 25	6 25	6 25	100.0	100.0	100.0
Prince Rupert.....	6 70	2 69	2 40	2 40	40.1	35.8	35.8 A
Revelstoke.....	4 28	4 30	4 30	4 30	100.5	100.5	100.5
Rossland.....	3 82	3 60	3 60	3 85	94.2	94.2	100.8
Summerland.....	5 00	5 04	5 04	5 04	100.8	100.8	100.8
Vancouver.....	3 64	2 00	2 00	1 80	54.9	54.9	49.5 A
Victoria.....	3 68	3 00	3 00	3 00	81.5	81.5	81.5 A

MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 60 KILOWATT-HEURES

Alberni.....	6 16	8 20	8 00	8 00	133.1	129.9	129.9
Chase.....	8 65	8 65	8 65	8 65	100.0	100.0	100.0
Cumberland.....	7 29	6 75	6 75	6 75	92.6	92.6	92.6
Duncan.....	9 60	7 70	7 70	7 65	80.2	80.2	79.7
Kamloops.....	7 85	7 85	7 85	7 85	100.0	100.0	100.0
Kelowna.....	7 20	4 95	4 95	5 55	68.8	68.8	77.1
Nanaimo.....	7 42	6 35	6 35	6 52	85.6	85.6	87.9
Nelson.....	3 30	3 30	3 30	2 95	100.0	100.0	89.4
New Westminster.....	5 28	4 32	4 32	4 32	81.8	81.8	81.8
Port Alberni.....	5 45	6 64	6 64	6 64	123.0	123.0	123.0
Prince George.....	13 45	10 49	10 49	10 49	78.0	78.0	78.0
Princeton.....	9 00	9 00	9 00	9 00	100.0	100.0	100.0
Prince Rupert.....	9 94	4 05	2 80	2 80	40.7	28.2	28.2
Revelstoke.....	6 04	6 10	6 10	6 10	100.9	100.9	100.9
Rossland.....	5 62	5 40	5 40	5 65	96.1	96.1	100.5
Summerland.....	7 50	7 42	7 42	7 42	98.9	98.9	98.9
Vancouver.....	5 32	2 64	2 64	2 40	49.6	49.6	45.1
Victoria.....	5 36	4 40	4 40	4 40	82.1	82.1	82.1
Fernie.....	8 23	3 93	3 93	3 93	47.8	47.8	47.8

MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES

Aloerni.....	18 04	23 25	22 90	22 90	128.9	126.9	126.9
Chase.....	25 45	25 45	25 45	25 45	100.0	100.0	100.0
Cumberland.....	19 53	17 91	17 91	17 91	91.7	91.7	91.7
Fernie.....	24 43	8 25	8 25	8 25	33.8	33.8	33.8
Duncan.....	28 80	19 40	19 40	20 00	67.4	67.4	69.4
Kamloops.....	19 45	19 45	19 45	19 45	100.0	100.0	100.0
Kelowna.....	21 60	13 35	13 35	15 15	61.8	61.8	70.1
Nanaimo.....	18 66	16 42	16 42	17 68	88.0	88.0	94.7
Nelson.....	5 98	5 98	5 98	5 65	100.0	100.0	94.5
New Westminster.....	15 84	12 00	12 00	12 00	75.7	75.7	75.7
Port Alberni.....	14 41	17 53	17 53	17 53	121.7	121.7	121.7
Prince George.....	39 35	28 41	28 41	28 41	71.3	71.3	71.3
Princeton.....	21 60	21 60	21 60	21 60	100.0	100.0	100.0
Prince Rupert.....	29 38	10 13	5 20	5 20	34.5	17.7	17.7
Revelstoke.....	14 68	14 70	14 70	14 70	100.1	100.1	100.1
Rossland.....	15 70	15 50	15 50	15 75	98.7	98.7	100.3
Summerland.....	22 50	19 84	19 84	19 84	88.2	88.2	88.2
Vancouver.....	14 29	5 40	5 40	5 10	37.8	37.8	35.7
Victoria.....	9 14	12 80	12 80	12 80	140.0	140.0	140.0

CENSUS OF INDUSTRY

YUKON TERRITORY—TERRITOIRE DU YUKON.

Municipality Municipalité	Monthly Bills Comptes mensuels				Index Numbers Nombres indices		
	1913	1924.	1925	1926	1924	1925	1926
	\$	\$	\$	\$			

MONTHLY CONSUMPTION OF 15 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 15 KILOWATT-HEURES

White Horse.....	‡ 6 50	‡ 6 50	‡ 6 50	‡ 6 50	100·0	100·0	100·0
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MONTHLY CONSUMPTION OF 20 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 20 KILOWATT-HEURES

White Horse.....	8 50	8 50	8 50	8 50	100·0	100·0	100·0A
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MONTHLY CONSUMPTION OF 40 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 40 KILOWATT-HEURES

White Horse.....	16 50	16 50	16 50	16 50	100·0	100·0	100·0
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MONTHLY CONSUMPTION OF 60 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 60 KILOWATT-HEURES

White Horse.....	24 50	24 50	24 50	24 50	100·0	100·0	100·0
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MONTHLY CONSUMPTION OF 180 KILOWATT HOURS—CONSOMMATION MENSUELLE DE 180 KILOWATT-HEURES

White Horse.....	72 50	67 50	67 50	67 50	93·1	93·1	93·1
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Legend:—
* Supplied by Municipal Fuel Plant.
† Supplied by Municipal Water Power Plant.
‡ Supplied by Commercial Fuel Plant.
§ Supplied by Commercial Water Power Plant.

Légende:—
Fourni par l'usine municipale à combustible.
Fourni par l'usine municipale hydraulique.
Fourni par l'usine commerciale à combustible.
Fourni par l'usine commerciale hydraulique.

CANADA
MINISTÈRE DU COMMERCE
BUREAU FÉDÉRAL DE LA STATISTIQUE

RECENSEMENT INDUSTRIEL, 1926

1ère PARTIE—STATISTIQUE

PRODUCTION ET DISTRIBUTION DE L'ÉLECTRICITÉ

(Préparé en collaboration avec le Service des forces Hydrauliques du Drainage et de l'Irrigation du ministère de l'Intérieur, et avec le concours de la Commission Hydro-Électrique d'Ontario, la Commission des Eaux Courantes de Québec, la Commission de l'Énergie Électrique du Nouveau-Brunswick, la Commission de la Force Motrice de la Nouvelle-Écosse et la Commission de la Force Motrice du Manitoba)

Publié par ordre de l'hon. James Malcolm, M.P.,
Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1928

PRÉFACE

Les données concernant la production et la distribution de l'électricité au Canada sont colligées et publiées sous forme de rapport par le Bureau Fédéral de la Statistique, en vertu des dispositions de la loi de la Statistique, 8-9 George V, chap. 43.

Le personnel du Service des Forces Hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur, a bien voulu vérifier les réponses au questionnaire et mettre à point le présent rapport conformément aux dispositions concertées lors de l'inauguration du recensement annuel. Le Bureau désire également remercier le Service de l'Inspection du Gaz et de l'Électricité, du ministère du Commerce, ainsi que les différentes commissions provinciales pour le concours qu'il en a reçu.

Les informations concernant le coût de l'éclairage électrique et les nombres-indices s'y rapportant, déjà publiés dans le rapport de 1925, ont été mises à jour par l'addition des tarifs de 1926.

Au cours de l'année 1927 le Bureau, grâce à la coopération des grandes usines électriques, a inauguré un rapport mensuel sur la production de l'énergie électrique dont les données sont incorporées à la Revue Mensuelle de la Situation Economique que publie le Bureau. Ces données, couvrant les années 1925, 1926 et 1927, ont été ajoutées à ce rapport sous forme d'appendice.

Le rapport est publié en deux sections, la première partie, telle que décrite ci-dessus, donne le recensement général et une statistique condensée de cette industrie telle qu'elle était au 1er janvier, 1927, et la deuxième partie donne la liste complète et classifiée de toutes les organisations publiques ou privées distribuant ou vendant de l'énergie électrique. Alors que les données de cet Almanach sont basées sur les statistiques de la première partie, l'Almanach couvre les conditions existantes au 1er mai 1928. On peut obtenir des exemplaires de la première partie (Statistiques) du rapport en s'adressant au Bureau Fédéral de la Statistique. Pour copies de la deuxième partie (Almanach), il faut s'adresser au Directeur de Service des Forces Hydrauliques du Drainage et de l'Irrigation, Ottawa.

Par l'intermédiaire de la section du Service d'Inspection de Gaz et d'Électricité, le ministère du Commerce publie aussi un rapport annuel donnant les noms de toutes les compagnies enregistrées sous la Loi de l'Inspection Electrique, donnant le type de principe moteur, phase, fréquence et voltage de chaque système et le nombre de compteurs dans chaque municipalité.

R. H. COATS,

Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,
OTTAWA, 8 février 1928.

NOTICE SUR LES FORCES HYDRAULIQUES DU CANADA

PAR

Le Service des Forces Hydrauliques, du Drainage et de l'Irrigation

L'avenir des industries canadiennes étant intimement lié à l'utilisation des forces hydrauliques soit produites par les industries manufacturières, soit mises à leur disposition par les usines électriques centrales, toute étude analytique des statistiques de la production et de la distribution de l'électricité serait incomplète sans un coup d'œil jeté sur les forces hydrauliques tant développées que potentielles.

À la fin de 1927 le Canada possédait une installation hydraulique de 4,777,-921 h.p., dont 82 p.c. appartenant aux usines électriques centrales; depuis plusieurs années l'électricité produite par les usines hydro-électriques a dépassé 98 p.c. de la totalité de l'électricité distribuée au Canada pour les usages publics.

Conformément aux dispositions de l'Acte de l'Amérique Britannique du Nord de 1867, la gestion des forces hydrauliques de la Puissance tombe sous la juridiction tantôt de l'administration fédérale et tantôt des administrations provinciales.

L'autorité fédérale s'étend sur les chutes des provinces de l'Alberta, de la Saskatchewan et du Manitoba ainsi que des territoires du Yukon et du Nord-Ouest, qui sont administrées par le Service des Forces hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur. Cet organisme prête également son concours aux autorités provinciales pour l'étude des travaux à entreprendre dans les différentes provinces. Le ministère fédéral des Chemins de fer et des Canaux s'occupe de tout ce qui concerne les dérivations et captations ayant pour objet des projets de canalisation; enfin, le ministère des Travaux publics chargé de la protection de la navigation dans toutes les parties du Canada, dirige les travaux de même nature intéressant les cours d'eau navigables.

Les terres des provinces de la Colombie Britannique, d'Ontario, de Québec, du Nouveau-Brunswick, de la Nouvelle-Ecosse et de l'île du Prince-Edouard appartenant à ces provinces antérieurement à la Confédération, la gestion des forces hydrauliques de ces provinces est du ressort de leurs assemblées législatives respectives, lesquelles ont délégué leurs pouvoirs administratifs, savoir: dans la Colombie Britannique¹, au ministère des Terres; dans l'Ontario, au ministère des Terres et Forêts; dans le Québec, au ministère des Terres et Forêts; au Nouveau-Brunswick, au ministère des Terres et des Mines; dans la Nouvelle-Ecosse au Commissaire des Travaux Publics et des Mines et dans l'île du Prince-Edouard au Commissaire des Travaux Publics.

Dans les provinces de Manitoba, Ontario, Nouveau-Brunswick et Nouvelle-Ecosse des commissions gouvernementales ont été formées pour le développement ou l'achat des forces hydrauliques, la transmission et la distribution de l'énergie électrique. Entre toutes, la Commission Hydro-électrique d'Ontario, créée en 1905, a acquis une très grande importance. En général, ces commissions se substituent aux municipalités pour la production ou l'achat coopératif de l'énergie électrique; elles remplissent également le rôle de fidéicommissaires du gouvernement provincial qui leur fournit des fonds. Les commissions de Force Motrice du Manitoba et de la Nouvelle-Ecosse, constituées en 1919, et la commission de l'énergie électrique du Nouveau-Brunswick, qui date de 1920, exercent des attributions similaires à celles de la Commission Hydro-électrique d'Ontario. La Commission des Eaux Courantes du Québec s'occupe activement de l'étude des cours d'eau et des chutes, ainsi que de la captation des eaux dans d'immenses réservoirs artificiels.

¹ Les chutes d'eau de la zone ferroviaire de la Colombie Britannique appartiennent au gouvernement fédéral quoiqu'elles soient en fait gouvernées par la loi provinciale.

Au cours de l'année 1927 les turbines hydrauliques des usines canadiennes se sont accrues de 221,655 h.p. dès maintenant au travail; d'autres constructions activement poursuivies permettent de compter sur une force supplémentaire de 378,000 h.p. qui sera prête à fonctionner à l'automne de 1928. A ce moment plus de cinq millions de chevaux-vapeur contribueront à la prospérité industrielle et aux besoins domestiques du pays.

De même que pendant les trois années précédentes, le Québec a réalisé le gain le plus considérable en l'année 1927, soit 149,280 h.p. Puis viennent le Manitoba, second avec 28,000 h.p. et l'Ontario troisième, avec 26,320 h.p.; la Colombie Britannique et les provinces maritimes ont apporté une contribution plus minime.

Les immenses travaux entrepris sur la rivière Gatineau par la Gatineau Power Company ont été le principal facteur de la progression de la province de Québec. L'usine de Chelsea commença à fonctionner en janvier avec une turbine de 34,000 h.p. installée en décembre 1926 et figurant par conséquent dans les chiffres de l'année dernière. Deux autres turbines de même force furent mises en œuvre quelques mois plus tard; des dispositions ont été prises pour l'installation ultérieure de deux autres unités qui donneront à cette usine une capacité totale de 170,000 h.p. A l'usine de Farmer's Rapids, située à un mille en aval de la précédente, trois turbines de 24,000 h.p. chacune fonctionnent; on a prévu l'installation ultérieure de deux autres turbines qui donneront à l'usine une capacité de 120,000 h.p. A 27 milles environ en amont de Chelsea, la construction d'une troisième usine, à Paugan Falls, fut activement poursuivie. Là, six unités de 34,000 h.p. chacune commenceront à travailler en septembre 1928. Enfin la même compagnie songe à construire une quatrième usine sur la même rivière, près de Maniwaki, dès que le besoin s'en fera sentir.

Les usines ci-dessus énumérées de the Gatineau Power Company produisent de l'électricité pour les besoins de la grande papeterie que possède à East Templeton the International Paper Company, qui produit quotidiennement 500 tonnes de papier à journal; elles fournissent également aux besoins de la population du district de Hull. En outre, la Commission Hydro-électrique d'Ontario s'y approvisionne de 260,000 h.p. qui supplémentent l'énergie de ses usines du Niagara et enfin 60,000 h.p. additionnels à la production de son réseau des rivières Ottawa et Rideau.

Au cours de l'année la Gatineau Power Company fit l'acquisition de l'Ottawa Power Company et de la Quebec Southern Power Corporation, agrandissant l'usine que possédait cette dernière compagnie à Rawdon, sur la rivière Ouareau, de 300 à 2,150 h.p.

La Shawinigan Water and Power Company a commencé les travaux préliminaires à l'installation d'une nouvelle turbine de 40,000 h.p. à son usine n° 2, de Shawinigan Falls; de plus, elle a ouvert à St-Alban, sur la rivière de Ste-Anne de la Pérade, une petite usine de 4,000 h.p. bâtie en remplacement d'une autre détruite par l'inondation.

La même compagnie acheva son réseau de transmission de 165,000 volts qui traverse 136 milles d'une région presque inhabitée et transporte l'énergie électrique depuis l'usine de la Duke-Price Power Company, sur la rivière Saguenay, jusqu'à la cité de Québec. Nul autre réseau de transmission canadien ne possède un voltage aussi fort; il portera plus de 100,000 h.p.

L'Alcoa Power Company a poursuivi activement ses travaux au site des Chutes-à-Caron sur la rivière Saguenay. Cette usine, après son achèvement, aura une capacité de 800,000 h.p.

Parmi les constructions nouvelles ou agrandissements en cours il convient de mentionner une usine de 60,000 h.p. que bâtit la Montreal Island Power Company sur la rivière des Prairies, l'addition de deux turbines de 10,000 h.p. chacune à l'usine de la Canada Northern Power Corporation sur la rivière des Quinze, qui sera complétée en juillet 1928, la continuation de la construc-

tion de l'usine de l'Ontario Paper Company sur la rivière aux Outardes, qui comportera une installation de 40,000 h.p., les ordres donnés par la cité de Sherbrooke pour la construction d'une usine de 5,800 h.p. à Westbury, sur la rivière St-François, et enfin, l'autorisation accordée pour une nouvelle turbine de 25,000 h.p. pour l'usine de l'Ottawa River Power Company, près de Bryson, sur la rivière Ottawa.

On ne saurait relater les progrès réalisés à cet égard dans la province de Québec sans faire ressortir le rôle éminent joué par la Commission des Eaux Courantes de Québec, notamment par la création de barrages sur les rivières Gatineau, St-Maurice, St-François, Ste-Anne de Breaupré, Métis et du Nord, ainsi que sur le lac Kenogami.

Les gains réalisés par la province de Manitoba se limitent à l'installation d'une quatrième turbine de 28,000 h.p. à l'usine que possède à Great Falls, sur la rivière Winnipeg, la Manitoba Power Company. On annonce que la cité de Winnipeg se propose de capter les chutes de l'Esclave sur la rivière Winnipeg, ces travaux devant être terminés en 1931; d'autre part, la compagnie minière Whitney, qui possède la mine Flin Flon, à 70 milles au nord-ouest de Le Pas, a l'intention de harnacher soit les chutes Whitemud sur la rivière Nelson, soit les chutes Island sur la rivière Churchill, pour produire l'électricité nécessaire à l'exploitation de cette mine. Cette usine aurait une capacité de 30,000 ou 40,000 h.p. et le courant produit serait transmis de là jusqu'à la mine, distante de 170 milles.

L'addition de 26.320 h.p. crédits à la province d'Ontario est principalement attribuable à l'achèvement par l'Ontario and Minnesota Power Co. de deux usines sur la rivière la Seine, l'une de 10,000 h.p. à Sturgeon Falls et l'autre de 14,420 h.p. à Moose Lake. On termine actuellement une troisième usine située au lac Calm sur la même rivière, dont les 13,200 h.p. seront mis en œuvre au commencement de 1928. L'énergie électrique que produiront ces trois usines servira aux besoins des usines de pulpe et de papier de la Puissance.

La Commission Hydro-électrique d'Ontario a travaillé activement à la construction de son nouvel établissement de 54,000 h.p. au lieu dit Alexander Landing, sur la rivière Nipigon, qu'elle espère terminer au commencement de 1929 et dont le courant desservira la baie du Tonnerre, Port Arthur, Fort William et les régions avoisinantes. La même commission poursuit également les travaux de construction de sa ligne de transmission allant de Fitzroy Harbour sur la rivière Ottawa jusqu'à Toronto, laquelle transportera une partie, soit 220,000 volts, des 260,000 h.p. achetés de la Gatineau Power Company.

Dans l'Ontario septentrional, sur la rivière Mattagami, la Spruce Falls Company poussa rapidement les travaux de son usine de Smoky Falls où elle espère, dès le mois d'août 1928, produire au moyen d'une installation préliminaire 56,250 h.p.

L'International Nickel Company of Canada, Limited, espère commencer vers le mois de mars 1928 la construction d'une usine de 28,200 h.p., à Spanish River.

Les travaux les plus importants exécutés dans la Colombie Britannique le furent par la West Kootenay Power and Light Company qui construit une usine de 60,000 h.p. à South Slocan sur la rivière Kootenay; d'autres travaux furent également exécutés par plusieurs des filiales de la British Columbia Electric Railway Company, savoir: Burrard Power Company, Ltd., et Bridge River Power Company, Ltd.

La Burrard Power Company, Ltd., acheva la construction de son usine de 12,500 h.p. sur les bords du lac Stave tandis que la Bridge River Power Company, Ltd., exécuta des travaux préparatoires considérables à l'établissement qu'elle projette sur la rivière Bridge, lequel n'aura point de rival dans la province. Pour débiter, l'usine de Bridge River sera munie de deux turbines de 28,000 h.p. chacune, qui fonctionneront à la fin de 1930.

De nombreux projets importants sont à l'étude dans cette province, ce qui fait présumer une grande activité au cours des années prochaines.

Dans les provinces maritimes on signale la progression des travaux de construction de l'usine que bâtit à Grand Falls, N.-B., la St. John River Power Company. Cette compagnie qui est l'une des filiales de l'International Paper Company espère mettre en mouvement, dès juillet 1928, une turbine de 20,000 h.p. en attendant l'achèvement de son entreprise qui produira 80,000 h.p.

La Commission de la Force motrice de la Nouvelle-Ecosse a poursuivi jusqu'à Sandy Lake les travaux de développement de St. Margaret's Bay qui fourniront un supplément au courant produit par les usines de Tidewater et Mill Lake. Deux turbines de 2,500 h.p. chacune y ont été installées; leur production sera transmise à Halifax sur la ligne de transmission de la commission.

L'Avon River Power Company construit une troisième usine hydro-électrique, la seconde qu'elle possède sur la rivière Avon; elle compte produire 4,350 h.p. dès le milieu de l'été de 1928.

Maints projets sont à l'étude dans les provinces maritimes, parmi lesquels on doit citer: la captation des eaux de la rivière Nipisiguit au Nouveau-Brunswick et des rivières suivantes de la Nouvelle-Ecosse: East River, Sheet Harbour, Liverpool et Midway.

Agissant de concert avec les organismes des gouvernements provinciaux le Service des Forces Hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur, a procédé à l'analyse et à la classification des chutes et rapides c'est-à-dire à un véritable inventaire des ressources de la Puissance en forces hydrauliques. De ce travail, on a extrait les chiffres du tableau suivant:

Provinces	Force motrice utilisable en 24 heures, à 80 p.c. du débit		Turbines installées, h.p.
	Au minimum habituel du débit.	Au débit normal (pendant 6 mois)	
1	2	3	4
	h.p.	h.p.	
Colombie Britannique.....	1,931,000	5,103,500	473,142
Alberta.....	390,000	1,049,500	34,107
Saskatchewan.....	542,000	1,082,000	35
Manitoba.....	3,309,000	5,344,500	255,125
Ontario.....	5,330,000	6,940,000	1,816,908
Québec.....	8,459,000	13,064,000	2,064,723
Nouveau-Brunswick.....	87,000	120,800	47,231
Nouvelle-Ecosse.....	20,800	128,300	71,017
Ile du Prince-Edouard.....	3,000	5,300	2,434
Territoires du Yukon et du Nord-Ouest.....	125,200	275,300	13,199
Total.....	20,197,000	33,113,200	4,777,921

Les chiffres des colonnes 2 et 3 comprennent uniquement les rapides, chutes, etc., susceptibles de captation et dont le débit utilisable est bien connu ou tout au moins approximativement établi. Il existe d'un littoral à l'autre un grand nombre de rapides et chutes, de capacités variables, qui échappent à l'inventaire ci-dessus faute d'être suffisamment connus. La relation entre les forces actuellement captées et les forces potentielles disponibles démontre que les ressources de la Puissance en forces hydrauliques, telles qu'inventoriées maintenant permettront l'installation de turbines développant 42,000,000 h.p.

Cette estimation ne représente que le minimum des forces hydrauliques potentielles de la Puissance. A l'appui de cette assertion on peut citer le cas des provinces de Nouveau-Brunswick et de Nouvelle-Ecosse; une étude approfondie des ressources hydrauliques de ces provinces a révélé la possibilité de construire à peu de frais des réservoirs régulateurs, au moyen desquels chacune de ces provinces produirait entre 200,000 et 300,000 h.p.

Avec 500 h.p. de forces hydrauliques captées par 1,000 âmes, le Canada occupe une situation prédominante parmi les nations au regard de l'utilisation des forces hydro-électriques. Ces énormes réserves sont l'âme du progrès industriel; elles fourniront les moyens d'exploiter les autres ressources naturelles de la Puissance, notamment l'utilisation de nos vastes réserves de combustible.

OTTAWA, 15 décembre 1927.

USINES ÉLECTRIQUES CENTRALES, 1926

Le recensement des industries canadiennes de production et de distribution de l'électricité est effectué chaque année au moyen de questionnaires ou formules envoyés par la poste à chaque usine. Les fonctionnaires du Bureau ne se livrent à aucune inspection et ne se déplacent pas; ils se bornent à examiner et scruter avec soin les réponses reçues. Les omissions se réparent et les corrections s'opèrent par correspondance.

Pour les fins du recensement on considère comme usines électriques centrales toutes les compagnies, les municipalités et les individus vendant ou distribuant de l'énergie électrique, soit qu'ils l'aient eux-mêmes produite, soit qu'ils l'aient achetée pour la revendre. Ces usines sont divisées en deux catégories, savoir: (a) commerciales, c'est-à-dire celles qui sont exploitées par des compagnies ou des individus et (b) municipales, c'est-à-dire celles appartenant soit aux municipalités, soit aux gouvernements provinciaux ou fédéral. En d'autres termes cette distinction s'établit entre ce que l'on appelle communément propriété publique et propriété privée; néanmoins, la nomenclature adoptée par le Bureau est celle de commerciale et municipale. Les usines sont également subdivisées entre (a) les génératrices, c'est-à-dire celles qui produisent le courant qu'elles vendent, y compris celles qui achètent du courant pour supplémer leur production et (b) les non-génératrices, c'est-à-dire les usines achetant tout le courant qu'elles vendent. Cette seconde classe embrasse cinq usines possédant la machinerie nécessaire à la production de l'électricité dans les cas d'urgence. C'est ce qui explique l'apparente anomalie que l'on remarque dans le tableau 15 relevant la production des usines non-génératrices. Près des trois quarts de l'électricité ainsi générée en 1926 fut produite par l'usine de Windsor, Ontario, laquelle est approvisionnée par la Commission Hydro-électrique d'Ontario. Cette usine produit également de l'électricité au moyen de la vapeur que lui fournissait une saline, mais elle a cessé cette fabrication, si bien qu'à l'avenir la production des usines non-génératrices se trouvera considérablement réduite.

Le tableau 4 ne totalise pas les usines électriques, se bornant à les classer. Il arrive parfois que la même compagnie possède et exploite deux usines et même un plus grand nombre, rapprochées les unes des autres ou même situées à une assez grande distance. Chacune de ces unités est énumérée, quel que soit son site. La classification repose sur les rapports qu'envoient les grandes compagnies. Si celles-ci établissent un rapport séparé pour chacune de leurs filiales, on donne à chaque filiale une individualité propre. Si, au contraire, toutes les filiales figurent dans le même rapport, elles sont comptées comme une organisation unique. Les liens rattachant les compagnies les unes aux autres sont d'une nature tellement différente que cette solution est la seule qui soit pratique.

Les capitaux représentés par cette industrie figurent sous quatre rubriques distinctes, savoir: génération, transmission, distribution et généralités. La

génération embrasse la valeur des usines et de leur emplacement, y compris barrages, vannes, biefs, ouvrages de captation et de réglementation du débit, réservoirs, etc., ainsi que la machinerie des usines, à l'exception des transformateurs et des autres machines servant à la transmission du courant. La transmission englobe la valeur des sous-stations et de leur emplacement, le droit de passage des lignes de transmission et les transformateurs. La distribution comporte la valeur des postes de distribution et de leur emplacement, le droit de passage des lignes de distribution, poteaux, fils, compteurs, etc. Le quatrième poste est constitué par la valeur des bureaux, de leur emplacement et de leur mobilier, les matières premières et provisions en stock, caisse et fonds de roulement. Le total global représente les capitaux absorbés par l'industrie. Le questionnaire invite les intéressés à s'abstenir de mentionner leurs placements dans d'autres entreprises. Les lignes de transmission sont celles transportant le courant depuis l'usine jusqu'à la sous-station, tandis que les lignes de distribution sont toutes les lignes partant des sous-stations et conduisant d'abord aux postes de distribution puis chez les consommateurs; lorsque le courant n'est pas converti à l'usine pour la transmission, toutes les usines sont considérées comme lignes de distribution.

Les recettes sont divisées en deux classes (a) celles provenant de la vente d'électricité pour l'éclairage et (b) celles provenant de la vente d'électricité soit comme force motrice, soit pour être revendue. Les industriels sont invités à établir cette distinction même d'une manière approximative s'ils ne peuvent faire autrement. Une quantité considérable de courant électrique s'échange entre les usines, cette énergie passant parfois par trois usines avant d'atteindre le consommateur. Il s'ensuit que les recettes encaissées par les usines sont susceptibles de prêter à des doubles emplois importants. Ces doubles emplois amèneront nécessairement des erreurs d'interprétation des données, car l'on se bornait pour établir des comparaisons entre les tarifs des différentes usines à diviser les recettes brutes par le total des kilowatt-heures de production, le résultat obtenu étant considéré comme le coût de l'électricité. Ces comparaisons sont inexactes, car elles ignorent non seulement le double emploi dans les recettes mais aussi le facteur "service" qui est l'un des éléments essentiels de la fixation du tarif de l'énergie électrique. Un autre facteur important à considérer dans la fixation du tarif, c'est l'intérêt sur les placements, probablement plus élevé ici que dans toutes autres industries, quoique les dépenses d'acquisition des matières premières soient presque nulles. Ceci est particulièrement vrai dans le cas des usines électriques et des usines possédant des réseaux de transmission et de distribution fort étendus.

Il est tout à fait évident que les petites usines locales fournissant l'électricité à quelques petits consommateurs de force motrice, mais principalement pour les besoins de l'éclairage, ne travailleront à plein que quelques heures par jour, tandis qu'elles resteront inactives le surplus de la journée ou ne donneront qu'un rendement très modique. Il est non moins évident que les grandes usines fournissant du courant aux mines, aux pulperies et papeteries et à d'autres gros clients consommant de l'électricité pendant vingt-quatre heures par jour, auront une production beaucoup plus rapprochée du maximum de capacité et, par conséquent, pourront vendre leur courant beaucoup moins cher que les petites usines. L'analyse des tableaux 15 et 6 démontre l'exactitude de cette assertion. Par exemple, en Saskatchewan, province qui ne possède pas d'usines hydro-électriques et où l'électricité est produite par de nombreuses petites usines à combustible, la production de toute ces usines n'atteignit que 15.7 p.c. de leur maximum de capacité et la moyenne de leurs recettes s'éleva à 4.14 cents par kilowatt-heure; au contraire, en Québec où les grandes usines hydro-électriques approvisionnent de nombreuses et puissantes industries: pulpe, papier et autres, consommant l'énergie électrique pendant vingt-quatre heures par jour, la relation de la production à la capacité maximum était de 47.4 p.c. pour l'ensemble des usines de toutes catégories. Leur production était donc

triple de celle des usines de la Saskatchewan, mais la moyenne de leurs recettes nettes n'était que de 0.53 cents par kilowatt-heure, soit un huitième seulement de la moyenne de la Saskatchewan. Cependant, ceci ne signifie pas qu'un consommateur de la Saskatchewan paie son électricité huit fois plus cher que dans le Québec, à quantité et à destination égales.

On trouvera dans l'appendice à ce rapport que le tarif de l'éclairage domestique à Regina, Saskatchewan, comparé au tarif de Montréal, Québec ne coûte que 57 p.c. de plus pour 40 kilowatt-heures et 35 p.c. de plus pour 180 kilowatt-heures; on ne possède pas à l'heure actuelle les données permettant la comparaison de l'énergie électrique employée comme force motrice. En fait, ce sont les quantités considérables d'électricité vendues comme force motrice aux consommateurs qui s'en servent vingt-quatre heures par jour durant l'année entière et à un coût relativement minime qui affectent matériellement la moyenne des recettes par kilowatt-heure.

En Ontario où la majorité des municipalités achètent l'électricité de la Commission provinciale, laquelle en achète elle-même une notable portion des producteurs, on remarque un double emploi dans les recettes brutes de \$16,665,-178 ou 42 p.c. des recettes brutes; dans les autres provinces ce double emploi était moins élevé.

Afin d'éviter toute confusion et de réduire au minimum les possibilités d'erreur au regard de ces données, les recettes brutes ne figurent dans ce rapport qu'aux tableaux 1, 2 et 6, les données des tableaux 1 et 2 se rapportant aux années antérieures ayant été revisées pour permettre la comparaison. Ce que l'on appelle au cours de ce rapport les recettes nettes, ce sont les recettes totales ou brutes dont on a éliminé les doubles emplois et non pas les recettes diminuées des frais d'exploitation comme cela se pratique communément dans les bilans financiers. Ces recettes nettes sont obtenues en soustrayant le coût du courant acheté des recettes totales accusées par les usines.

Ce coût, qui constitue une recette pour les usines vendant l'électricité et une dépense pour celles qui l'achètent, fait l'objet du tableau 7.

Même si l'on divisait les recettes nettes par la production d'un groupe d'usines on n'obtiendrait pas une exacte moyenne des recettes par kilowatt-heure, parce que s'il est vrai que les recettes nettes provenant de la vente de cette énergie électrique est créditée à ces groupes acheteurs, on ne tient pas compte des kilowatt-heures par eux produits. Très peu d'usines commerciales achètent du courant aux usines municipales, mais le contraire se pratique communément, si bien que lorsqu'il s'agit de comparer le coût de l'électricité dans les usines commerciales d'une part et les usines municipales de l'autre, il convient de considérer ce facteur aussi bien que d'autres facteurs, tels que le service, etc.

Les dépenses relevées dans le tableau 7 ne constituent pas la totalité des frais mais seulement les déboursés relatifs aux appointements et salaires, au combustible, aux taxes et impôts et à l'achat d'électricité, mais lorsqu'il s'agit d'estimer les bénéfices on ne doit pas omettre d'évaluer, au moins approximativement, les autres dépenses. Les taxes et impôts qu'embrasse cette rubrique sont: l'impôt sur le revenu, tant fédéral que municipal, l'impôt foncier et d'autres taxes. Nombre d'usines municipales ne paient pas de taxes ou fort peu, la totalité des taxes et impôts payés par les stations municipales ne constituant que 9 p.c. du gain total, quoique leur capital comportât 43 p.c. de la masse et leurs recettes 47 p.c. de l'ensemble. Les taxes et impôts des usines commerciales absorbent 7.7 p.c. de leurs recettes nettes contre 0.9 p.c. chez les usines municipales.

Apparemment, la liste de paie et le nombre du personnel sont affectés par la nature du service aussi bien que par l'importance des usines. On peut voir par le tableau 2 que les usines municipales, qui n'ont contribué à la production qu'à concurrence de 35.5 p.c. du total, ont néanmoins desservi 57 p.c. des consommateurs d'éclairage domestique, 52.9 p.c. de l'éclairage commercial et 50

p.c. des consommateurs de force motrice, tandis que les salaires et appointements payés par elles constituaient 56.9 p.c. des sommes payées par toutes les usines pour cette cause.

Les consommateurs d'éclairage domestique se limitent strictement aux habitations privées; les magasins, les bureaux, les écoles, etc., figurent parmi les consommateurs d'éclairage commercial. Les consommateurs de force motrice sont ceux qui achètent le courant électrique au tarif spécial de la force motrice. Indubitablement, maints clients consommant tout à la fois de l'éclairage électrique et de l'éclairage commercial et ainsi classifiés, possèdent de petits moteurs. Habituellement les appareils électriques ménagers sont mus par le courant vendu au tarif de l'éclairage domestique, quoique dans certaines villes une distinction soit établie; dans d'autres villes, il existe un tarif spécial pour les poêles électriques mais il est plutôt rare qu'une distinction soit faite pour les appareils électriques ménagers.

Au regard de leur équipement les usines électriques sont divisées en deux classes: l'installation principale et l'installation auxiliaire ou de réserve. Cette installation auxiliaire embrasse toutes les machines à vapeur, les turbines à vapeur, les moteurs à combustion interne et les dynamos actionnées par eau dans les usines hydro-électriques et enfin, la totalité des usines non génératrices. Tous les autres équipements sont classés comme installation principale; ils embrassent les roues et turbines hydrauliques, les générateurs actionnés par elles dans les usines hydro-électriques et tout l'équipement des usines ne consommant que du combustible. Il est toutefois possible que quelques-unes des usines à combustible possèdent une installation de réserve, pour servir en cas d'accident ou bien aux heures de consommation intensive: néanmoins elles sont toutes considérées comme installation principale. Quoique quelques-unes des usines hydro-électriques se servent plus ou moins régulièrement de leurs machines à vapeur pendant les périodes d'eaux basses ou bien aux heures de consommation intensive, la plus grande partie de ces installations est tenue strictement en réserve en cas d'accident. Sur les 176,865 h.p. de machinerie primaire auxiliaire, 24,658 h.p. appartenaient aux usines classées comme non génératrices; quant au surplus de 152,207 h.p., une fraction égale à 60,291 h.p. seulement fut mise en œuvre durant 1926, produisant 22,325,000 kilowatt-heures, soit à raison de 5.7 p.c. seulement de la capacité maximum, tandis que les turbines de ces usines hydro-électriques se servant de leurs installations auxiliaires travaillèrent à raison de 67 p.c. de leur capacité potentielle. Il est donc tout à fait approprié de considérer ces machines et dynamos comme une installation auxiliaire.

Les additions les plus importantes ajoutées durant l'année à cette industrie comportaient: une turbine de 5,000 h.p. à l'usine de Great Falls de la Maine and New Brunswick Power Company, deux turbines de 45,000 h.p. chacune installées aux usines de l'île Maligne, appartenant à la Duke-Price Company, ayant porté la capacité de ces usines à 450,000 h.p. et deux turbines de 6,000 h.p. chacune installées à l'usine de Drummondville de la Southern Canada Power Company. La cité de Winnipeg ajouta deux turbines de 8,000 h.p. chacune à son usine de la Pointe du Bois sur la rivière Winnipeg en octobre et en novembre, puis une autre turbine de 28,000 h.p. à l'usine de Great Falls sur la même rivière, appartenant à la Manitoba Power Company. La West Kootenay Power Company installa une nouvelle turbine de 20,000 h.p. à son usine de Lower Bonnington. Quant aux usines consommant du combustible, la seule addition importante fut une turbine à vapeur de 1,340 h.p. installée à Charlottetown, I. P.-E., par la Maritime Electric Company. On pourrait également relever maintes additions d'unités moindres; mentionnons également plusieurs installations en cours dont la plus importante était celle de la Gatineau Power Company sur la rivière Gatineau dans le Québec. Cette compagnie commença en 1927 ses opérations dans deux de ses usines, qui possédaient à leur début l'une 102,000 h.p. et l'autre 72,000 h.p.

L'électricité ne peut être exportée du Canada que sur autorisation spéciale accordée par le Service de l'Inspection de l'Électricité et du Gaz, dépendant du ministère du Commerce, et qui a juridiction sur les droits d'exportation imposés depuis le premier avril 1925. Au cours de l'exercice financier clos le 31 mars 1927, les droits d'exportation se sont élevés à \$357,421.89, contre \$288,392.41 pour l'année précédente. Le taux est de trois centièmes d'un centin par kilowatt-heure sur toute l'énergie électrique exportée, sauf certaines exceptions. Nous donnons ci-dessous un relevé de l'électricité produite pour l'exportation par chaque compagnie ainsi que la quantité totale générée par chacune d'elles. En ce qui concerne la Commission Hydro-électrique d'Ontario, on n'y fait figurer que le réseau du Niagara, les autres réseaux de cette Commission ne se livrant à aucune exportation. Parmi les exportations de cette Commission figurent 382,129,100 kilowatt-heures de surplus; la Canadian Niagara Power Company exporta également 71,500 kilowatt-heures de surplus. Dans l'un et l'autre cas, ce surplus est constitué par de l'énergie fournie si le producteur le possède mais que son contrat l'autorise à supprimer s'il le préfère. Les autres exportations sont basées sur des contrats et, par conséquent, varient selon les besoins de la clientèle. Les données de ce tableau ont été puisées dans le rapport annuel du Directeur des Services d'Inspection de l'Électricité et du Gaz.

KILOWATT-HEURES EXPORTÉS AUX ÉTATS-UNIS EN 1926, ET PRODUCTION DES USINES EXPORTATRICES

Compagnies	¹ Kilowatt- heures produits pour l'exportation	Kilowatt- heures générés
Maine and New Brunswick Electric Power Company.....	8,092,541	10,433,948
Sherbrooke Railway and Power Company.....	223,460	12,664,500
Cedar Rapids Manufacturing and Power Company.....	375,611,723	758,068,723
Hydro-Electric Power Commission of Ontario (Réseau du Niagara).....	794,195,100	3,314,904,000
Canadian Niagara Power Company.....	325,758,673	596,397,123
Ontario and Minnesota Power Company.....	12,184,400	31,563,694
Western Canada Power Company.....	17,674,752	131,884,300
West Kootenay Power and Light Company.....	604,300	410,327,600
British Columbia Electric Railway Company, Limited.....	762,400	102,424,000
Maritime Electric Company, Limited.....	542,673	1,866,867
International Electric Company.....	50,730	257,622
Fraser Companies, Limited.....	151,000	10,130,500
Total.....	1,535,851,752	5,389,922,877

¹ La différence entre la quantité produite pour l'exportation et la quantité effectivement exportée que l'on trouve à l'appendice A s'explique par l'évaporation entre la station génératrice et le point d'exportation.

Entre 1922 et 1926 les capitaux absorbés par les usines électriques centrales se sont accrus de 33 p.c., les recettes ont augmenté de 43 p.c. et la production de 79 p.c. La capacité des dynamos s'est, elle aussi, accrue de 72.5 p.c., c'est-à-dire presque dans la même proportion que la production. La relation entre la production et la capacité potentielle des usines était de 42.1 p.c. en 1922; elle s'éleva à 47 p.c. en 1923 et à 48.5 p.c. en 1924, certains groupes d'usines élevant cette relation jusqu'à 58.4 p.c. L'achèvement de nouvelles usines en 1925 ayant créé un surplus temporaire de capacité fit retomber la relation à 42.2 p.c. en 1925, mais les nouveaux besoins qui se sont manifestés la firent remonter à 45.5 p.c. en 1926.

L'accroissement de 66.9 p.c. dans la machinerie primaire constaté durant les quatre années 1922-1926 est presque entièrement constitué par les roues et turbines hydrauliques, lesquelles ont absorbé 1,497,096 h.p. La capacité des machines à vapeur a diminué de 4,098 h.p., celle des turbines à vapeur s'est augmentée de 14,302 h.p. et celle des moteurs à combustible interne de 3,625 h.p. La proportion de 25 p.c. d'accroissement de capacité relevée en 1925 était exceptionnellement forte, aussi ne s'est-elle pas maintenue en 1926, l'augmentation de cette année se limitant à 5.5 p.c.

Le capital investi dans les usines commerciales s'est augmenté durant l'année de \$20,954,625 et celui des usines municipales de \$8,544,384. La production des usines commerciales s'est accrue de 19.5 p.c. et de 19.9 p.c. dans les usines municipales, l'importance respective de ces deux catégories se maintenant au même niveau que l'année précédente.

Dans le tableau 2 on a établi une distinction, d'une part, entre les usines commerciales et municipales et, d'autre part, entre les stations génératrices ou non. En faisant usage de ces données aux fins de comparaison entre les unes et les autres, il convient d'être circonspect, car tous les facteurs, non plus que les résultats ne sont pas nécessairement exacts. Les recettes nettes des usines non génératrices sont l'excédent du prix payé pour le courant acheté aux usines génératrices, mais non pas les sommes encaissées de leurs clients. Les stations génératrices elles-mêmes se livrent à certains échanges de courant, mais chez elles les débits compensent les crédits, si bien que leurs recettes nettes représentent la totalité des recettes encaissées tant des consommateurs que des usines distributrices. Dans les recettes nettes des usines commerciales figurent certaines sommes reçues des usines municipales soit génératrices, soit non génératrices, mais elles sont relativement minimes. Enfin les stations municipales ne reçoivent presque rien des usines commerciales.

On peut dire que la production de l'électricité au Canada est à peu près entièrement hydro-électrique, car la production des usines de cette nature atteint presque 99 p.c. de la production de toutes les usines et la capacité de leurs dynamos actionnées par les turbines dépassait 95 p.c. de l'ensemble.

Les usines électriques fonctionnant au moyen du combustible sont assez nombreuses; on en compte 301, cependant leur production ne constitue qu'une fraction infinitésimale du total, c'est-à-dire 1.4 p.c. Plus de la moitié d'entre elles, soit 159, ont une capacité inférieure à 50 K.V.A., la moyenne ne dépassant pas 19 K.V.A.; 16 de ces usines ont une capacité supérieure à 1,000 K.V.A.; elles revendiquent plus de 80 p.c. de la production des 301 usines de cette sorte. Les nombreuses usines dont la capacité est inférieure à 1,000 K.V.A., quoique insignifiantes, comparativement aux usines hydro-électriques et aux grandes usines à combustible, ont néanmoins une certaine importance en ce qu'elles desservent approximativement 57,000 clients dans des petites villes et villages qui, sans elles, seraient privés d'électricité. Le tableau 3 présente les principales données des usines ayant répondu au questionnaire, groupées selon leur capacité. Un trait caractéristique des usines à combustible, c'est la diminution de la moyenne de leurs recettes par kilowatt-heure vendu au fur et à mesure de l'accroissement de leur capacité, ainsi que la modicité de leur production par rapport à leur potentialité. La raison évidente en est que les petites usines vendent leur courant presque exclusivement pour l'éclairage des particuliers, c'est-à-dire pendant très peu d'heures chaque jour. La consommation de houille relevée dans ce tableau s'applique uniquement aux usines à combustible; cette compilation n'a d'autre objet que de permettre une computation de la consommation moyenne par unité de production. Cette moyenne est relativement élevée pour l'ensemble des usines, tout spécialement pour celles dont la capacité est inférieure à 1,000 K.V.A. Les grandes usines modernes ne consomment que de 1.5 à 2 livres de houille par kilowatt-heure. Mais ces basses moyennes dépendent, d'une part, de la qualité de la houille et d'autre part, de la possibilité d'obtenir un volume d'eau considérable pour la condensation. Maintes industries manufacturières canadiennes se servent de la houille pour la génération de leur force motrice, mais les usines productrices d'électricité n'en consomment qu'une très minime quantité. Plus de 80 p.c. de la capacité totale en K.V.A. des usines à combustible se trouvent dans les usines de la Saskatchewan et de l'Alberta, les établissements similaires d'Ontario et de Québec ne possédant que 3,943 K.V.A. ou 3 p.c.

Il a été dit plus haut que les usines hydro-électriques produisent presque 99 p.c. de l'électricité générée par toutes les usines. Sur le total de 11,911,-

039,000 kilowatt-heures produits par ces usines, 14 usines dont la capacité égale ou dépasse 50,000 K.V.A. ayant répondu au questionnaire en ont généré plus de 70 p.c. La relation entre leur production et leur maximum de capacité était de 51.4 p.c., relation sensiblement plus élevée que dans tout autre groupe, à l'exception des six usines se plaçant entre 5,000 et 10,000 K.V.A. lesquelles ont vendu à peu près toute leur production à quelques gros clients. La moyenne des recettes par kilowatt-heure vendu par les usines dépassant 50,000 K.V.A. n'est que de 0.28 cents; en raison de la magnitude des quantités vendues, la moyenne générale s'est trouvée sensiblement affectée. Ces usines vendent des quantités considérables de courant durant 24 heures aux mines, pulperies, papeteries, etc. Elles en vendent aussi à d'autres compagnies et à des municipalités pour la distribution. Il s'ensuit que le prix ci-dessus est plutôt un prix de gros qu'un prix de détail.

Le groupe des usines de 5,000 à 10,000 K.V.A., ainsi qu'on peut le voir par le tableau 3, vend son courant surtout en gros et à un très petit nombre de clients. En fait, trois de ces six usines n'ont presque aucune clientèle d'éclairage, mais seulement quelques gros clients achetant de la force motrice pour leur propre usage et pour la distribuer. L'énergie électrique achetée par les différents groupes était tantôt générée tant par les usines du dit groupe que par des usines d'autres groupes; conséquemment, la moyenne des recettes par unité vendue comporte tout à la fois un prix de gros et un prix de détail, constituant d'ailleurs des doubles emplois.

On remarque une fluctuation considérable dans les capitaux engagés, calculés par K.V.A. de capacité; ils oscillent entre \$177 et \$431, la plus grande moyenne se trouvant dans les plus grandes usines. L'absence de réseaux de distribution étendus réduit nécessairement ce capital; c'est indubitablement un facteur de basse moyenne.

La capacité et la production des usines hydro-électriques que relève le tableau 3 embrasse les installations auxiliaires, mais ainsi qu'on l'a déjà dit cette installation auxiliaire ne sert que fort rarement et ne produit qu'une portion minime de la totalité de la production hydro-électrique.

Les questionnaires invitent à faire connaître les mois de maximum de charge (*peak load*); la majorité des usines le placent en octobre, novembre et décembre, ce dernier mois prédominant. En général, ces usines ont surtout envisagé le maximum de distribution susceptible d'être affecté par l'énergie achetée, ce qui élèverait la capacité. Toutefois, les groupes d'usines hydro-électriques n'achetant que fort peu de courant ont signalé des maximum de 76 p.c. de leur capacité; quant aux usines à combustible les plus importantes, cette moyenne est de 62 p.c. On a omis d'en faire état dans le tableau parce que les données sont incomplètes et susceptibles de mésinterprétation.

Le nombre des clients ne s'est pas accru autant que la production. La rapide expansion des industries minières, des pulperies et des papeteries fut le facteur le plus important de cet accroissement de consommation; tout naturellement, le nombre des clients ne subit que quelques additions. Les pulperies et papeteries font une consommation énorme d'électricité; une proportion considérable est produite par ces usines elles-mêmes, mais elles en achètent néanmoins des quantités considérables aux usines électriques. Une récente estimation faite par le Service des Forces hydrauliques, du Drainage et de l'Irrigation indique que les chevaux-vapeur achetés par les pulperies et papeteries aux usines électriques ont augmenté de plus de 160 p.c. entre 1922 et 1926. Presque toujours, la consommation de cette industrie est de 24 heures par jour, de telle sorte que l'augmentation de cette consommation absorbe approximativement 25 p.c. de l'excédent de production des usines électriques pendant cette période.

On ne possède pas de données complètes sur la consommation de l'électricité pour l'éclairage, parce que de nombreuses usines électriques n'établissent pas de distinction, mais une compilation du rapport annuel de la Commis-

sion Hydro-électrique d'Ontario démontre que dans les municipalités desservies par cette Commission, la consommation pour l'éclairage domestique a augmenté entre 1922 et 1926 de 140 p.c. et pour l'éclairage commercial de 97 p.c. Cet accroissement a porté tout à la fois sur la consommation individuelle et sur le nombre des clients.

C'est dans les cités que la consommation d'éclairage domestique fit les plus grands progrès, l'augmentation étant de 130 p.c., mais c'est dans les villes que le nombre des clients et la consommation moyenne par client s'accroissent le plus fortement. Dans toutes les municipalités desservies par la Commission le nombre des particuliers s'éclairant à l'électricité s'est accru de 40 p.c. et leur moyenne de consommation de 72 p.c.

Dans cette computation les clients de Toronto desservis par le courant à 60 cycles, qui étaient en 1922 abonnés à the Toronto Power Company, ont été laissés de côté en 1926. Il est bien possible que certaines de ces augmentations soient affectées par le fait que les clients de la Commission aient changé de résidence, toutefois, cet élément n'a que peu d'importance. Tandis que ces données ne s'appliquent seulement qu'aux municipalités ontariennes desservies par la Commission, elles donnent cependant une idée de l'accroissement de l'éclairage électrique au Canada.

Le chiffre de la population indiqué par le tableau 4 n'est pas le chiffre officiel du recensement, mais une estimation effectuée par les différentes usines; autrement dit, c'est la population ayant l'électricité à sa disposition. Cette population, tant urbaine que rurale, constituait approximativement 59 p.c. de la population estimative du Canada en 1926. Le recensement de 1921 porte la population urbaine à 49.53 p.c. de la population totale. En se servant du même pourcentage on constate qu'en 1926 les Canadiens ayant l'électricité à leur disposition étaient plus nombreux que la population urbaine tout entière. Faisons cependant observer que le recensement a classifié comme ruraux des gens vivant dans la banlieue des villes et des cités, ainsi que les habitants des villages non incorporés, dont certains sont des agglomérations relativement importantes. Très peu de villages du Canada sont privés du service de l'électricité.

En 1926, on comptait 1,530 municipalités desservies par l'électricité, dont la population était de 5,580,833 âmes. Ceci constitue une augmentation de 130 municipalités et 122,280 âmes sur les chiffres de 1925.

C'est dans la Colombie Britannique que la plus grande partie de la population, soit 85 p.c. jouit de l'électricité. La concentration de la population dans les agglomérations urbaines est un facteur de premier ordre à cet égard, ainsi d'ailleurs que la présence de chutes hydrauliques. Le recensement de 1921 nous apprend que 56 p.c. de la population de cette province est urbaine; c'est à peu près la même proportion que dans le Québec, province beaucoup plus ancienne et 2.3 p.c. seulement de moins que dans Ontario.

TABEAU 5—CAPITAL.—Plus de 63 p.c. de l'accroissement des capitaux placés durant l'année est revendiqué par les usines de Québec, presque totalement par les usines hydro-électriques. La moyenne des capitaux, par cheval-vapeur, est tombée de \$204 à \$201, les usines de Québec conservant la plus basse moyenne avec \$160 par cheval-vapeur. Les capitaux servant exclusivement à la génération, c'est-à-dire, turbines, barrages, réservoirs, etc., ainsi qu'à l'installation auxiliaire, ont donné une moyenne de \$114 par cheval-vapeur, la plus haute moyenne étant dans les provinces maritimes et la plus basse au Manitoba. La moyenne du coût par mille des lignes de transmission et de distribution varie considérablement selon les différents types de construction.

TABEAU 6—RECETTES.—Au cours de l'année les recettes ont augmenté de \$9,592,149 ou 12 p.c. mais la moyenne des recettes par kilowatt-heure s'est abaissée de .04 cents ou 5 p.c. La principale cause en est évidemment l'énorme importance prise par la consommation des pulperies, des papeteries et des mines. D'autre part, l'exportation s'est accrue de 234 millions de kilowatt-

heures, soit presque 2 p.c. de la production totale de l'ensemble des usines. La presque totalité de cet accroissement est attribuable aux usines du Niagara qui vendent leur courant à bas prix, ce qui a tendance à faire diminuer la moyenne des recettes par unité produite.

Les usines du Québec ont le tarif le plus bas, leur moyenne étant de 0.53 cents par kilowatt-heure; par contre, ce sont les petites usines, principalement à combustible, de l'Île du Prince-Edouard et de la Saskatchewan qui, desservant pour la plupart une petite clientèle, ont la plus forte moyenne. Une masse considérable d'énergie électrique se perd pendant la transmission et lors du passage dans les transformateurs. Il s'ensuit qu'un réseau étendu subissant de fortes pertes sur ses lignes aura nécessairement une moyenne de recettes inférieure à la moyenne d'un petit réseau local dépourvu de lignes de transmission, même si leur tarif était le même et la nature de leurs services à peu près identique. Ceci est attribuable à ce que la computation de la production totale embrasse toutes les pertes des réseaux de transmission et des transformateurs. Le Bureau Fédéral de la Statistique s'efforce d'obtenir des données précises sur ces pertes pour l'année 1927 de manière à connaître l'importance de ce facteur; jusqu'à ce moment toutes les comparaisons sont affectées par l'absence de cet élément.

TABEAU 7—DÉPENSES.—L'augmentation des dépenses, égale à la somme de \$5,131,268, que décèle le tableau 7 est constituée à concurrence de \$1,187,093 par les appointements et salaires, à concurrence de \$674,120, par les taxes et impositions et à concurrence de \$3,398,909 par le coût du courant. La houille consommée a vu décroître son coût de \$128,854. Les salaires payés par les usines du Nouveau-Brunswick et du Manitoba sont en diminution mais dans les autres provinces ils ont augmenté, principalement dans le Québec où cet accroissement fut de \$508,565. Le coût du courant électrique qui représente la portion la plus considérable de ces dépenses n'est pas le fait d'une véritable dépense pour l'industrie mais simplement un virement d'argent d'une usine à l'autre. Les augmentations les plus considérables se remarquent dans l'Ontario où la plus grande partie de l'électricité est générée par la Commission provinciale, puis vendue aux municipalités qui la distribuent, ainsi que dans le Nouveau-Brunswick où de grandes quantités d'énergie électrique s'échangent entre compagnies affiliées. Ces augmentations démontrent que les usines non génératrices gagnent du terrain.

TABEAU 8—PERSONNEL.—Très peu de changements se sont produits au regard du personnel pendant l'année. Il a cependant grossi de 143 employés depuis 1925. Le personnel a décréu dans le Québec, le Nouveau-Brunswick, le Manitoba et le Yukon; il a augmenté dans les autres provinces.

TABEAU 9—CLIENTS.—Durant l'année le nombre de clients s'est accru de 57,831 ou 4.5 p.c., cette augmentation se faisant sentir dans toutes les provinces, particulièrement dans l'Ontario, avec 27,994 et dans Québec, avec 15,559 clients de plus. Les moyennes indiquées au bas du tableau sont basées sur la population estimative des provinces en 1926, tant urbaine que rurale. La moyenne élevée de 17.15 clients (éclairage domestique) par 100 âmes dans la Colombie Britannique est partiellement attribuable à la proportion élevée de la population urbaine de cette province, ainsi qu'à la multiplicité des forces hydrauliques.

TABEAU 10—RÉSEAUX DE TRANSMISSION ET DE DISTRIBUTION.—La longueur des réseaux s'est accrue durant l'année de 2,042 milles, soit 854 milles ou 8.7 p.c. pour les lignes de transmission et 1,188 milles ou 6.7 p.c. pour les lignes de distribution. Les augmentations les plus fortes sont dans l'Ontario, avec 241 milles de lignes de transmission nouvelles et 498 milles de lignes de distribution, soit en tout 739 milles, puis dans le Québec, avec 520 milles de lignes de transmission nouvelles et 210 milles de lignes de distribution, soit une addition totale de 730 milles.

TABLEAUX 11, 12, 13 ET 14—EQUIPEMENT.—Sur les 199,796 chevaux-vapeur constituant l'accroissement de la machinerie primaire des usines, les usines du Québec revendiquent 108,204 h.p. ou 54 p.c.; celles du Manitoba, 60,452 h.p. ou 30 p.c. et celles de la Colombie Britannique 19,824 h.p. ou 10 p.c. Plus de 96 p.c. de cette augmentation appartient aux usines hydro-électriques, dont 90 p.c. aux usines commerciales. Les roues et turbines hydrauliques d'une force supérieure à 15,000 h.p. présentent une augmentation de quatre quant à leur nombre, et de 138,000 h.p. quant à leur capacité. Les autres turbines présentant une augmentation sensible sont celles de la catégorie entre 5,000 et 10,000 h.p. Sept d'entre elles ont ajouté une capacité de 43,000 h.p.

TABLEAU 15—ÉNERGIE ÉLECTRIQUE GÉNÉRÉE.—Les stations génératrices ont augmenté leur production de 1,982,056,000 kilowatt-heures ou 19.6 p.c., dont 871,936,000 kilowatt-heures pour le Québec et 800,991,000 kilowatt-heures pour l'Ontario. A elles seules, les usines d'Ontario et de Québec ont produit presque 85 p.c. de l'ensemble des usines canadiennes; viennent ensuite la Colombie Britannique et le Manitoba. Les usines hydro-électriques ont vu monter la relation de leur production par rapport à leur capacité potentielle, les usines d'Ontario tenant la tête avec 49.6 p.c. et celles du Québec venant ensuite avec 47.5 p.c. Ainsi que l'on devait s'y attendre, les usines à combustible ont conservé une relation plutôt basse puisqu'elle oscille entre 4.1 p.c. et 21.6 p.c. La relation des usines individuelles et celle des groupes provinciaux fut tantôt plus élevée et tantôt plus basse que les précédentes. La computation de cette relation s'opère en multipliant la capacité totale par 8,760 heures, puis en divisant le produit par la production de chaque catégorie d'usines en tenant compte, bien entendu, de celles qui ont commencé à fonctionner pendant l'année, dont la production est basée sur le pro rata du temps écoulé. Dans cette capacité on fait figurer celle des installations auxiliaires, mais celles-ci ne travaillant que très rarement, cette méthode est susceptible de pénaliser les installations hydro-électriques dans une certaine mesure. On laisse totalement de côté les différences susceptibles de résulter des maxima, soit quotidiens, soit annuels, qui pourraient cependant affecter la moyenne.

TABLEAU 16—COMBUSTIBLE.—C'est surtout dans les usines du Manitoba et de la Colombie Britannique que s'est produite la diminution de consommation du combustible et de son coût égale à \$128,854 ou 6 p.c. Le combustible consommé par les installations auxiliaires des usines hydro-électriques n'a coûté que \$374,491 ou 17 p.c. du total et le combustible consommé par les usines non génératrices a coûté \$26,602, à l'exclusion du coût de la vapeur utilisée par l'usine de Windsor, Ontario.

APPENDICE "A"

PRODUCTION MENSUELLE DES USINES CENTRALES ÉLECTRIQUES AU CANADA

Grâce à la coopération des grandes usines centrales électriques on a commencé en 1927 la publication d'un rapport mensuel de l'énergie électrique et cette publication forme un des tableaux de la Revue Mensuelle de la Situation Économique. Cette brochure paraît vers le 28 de chaque mois et montre quelle a été la production ainsi que l'exportation d'électricité dans le mois précédent.

Les usines faisant un rapport mensuel fournissaient 96 p.c. de la production totale en 1925 et 97 p.c. en 1926, de sorte que les fluctuations mensuelles peuvent être considérées comme représentant absolument les conditions de cette industrie au Canada.

La croissance de la génération électrique indique dans un certain degré l'expansion des activités manufacturières, parce qu'un très grand nombre des

industries canadiennes se servent d'électricité comme force motrice. La charge d'éclairage est affectée par les changements saisonniers de même que par une consommation plus grande des anciens clients et par l'addition de nouveaux clients. Il n'y a pas de doute que c'est par la fluctuation de la charge de l'éclairage qu'on doit expliquer la diminution de sa consommation pendant les mois d'été bien que l'on constate un développement au cours de la période de trois ans pour laquelle des données ont été compilées, ce développement étant approximativement de 10 p.c. par année. Bien que ce taux d'accroissement ne soit pas extraordinaire, la production est déjà très élevée, soit 1,300 kilowatt-heures per capita et après déduction de l'énergie exportée la production est de 1,120 kilowatt-heures per capita et son taux d'augmentation est beaucoup plus élevé que celui de la population ou de plusieurs autres industries.

Ces rapports mensuels permettent de suivre de très près la production d'énergie électrique, de mois en mois, ainsi que le développement de la génération électrique.

PRODUCTION DES USINES CENTRALES ELECTRIQUES EN CANADA

(A) PRODUCTION MENSUELLE

(En milliers de kilowatt-heures)

Mois	Totaux pour le Canada				Générés par pouvoir hydraulique				Générés par combustible		
	Eau	Combustible	Total	Provinces Maritimes	Québec	Ontario	Provinces des prairies	Colombie Britannique	Provinces des prairies	Autres provinces	Total exportations
1925											
Janvier.....	768,476	14,554	783,030	4,770	266,141	394,127	49,406	54,032	11,242	3,312	91,300
Février.....	705,156	12,299	717,455	4,813	266,806	344,598	41,601	47,338	9,655	2,644	79,260
Mars.....	792,234	12,278	804,512	5,407	310,697	376,150	42,930	57,050	9,947	2,331	100,160
Avril.....	783,776	11,613	795,389	5,033	319,598	361,824	41,685	55,636	9,181	2,432	106,335
Mai.....	805,752	10,332	816,084	5,128	334,483	365,662	44,602	55,877	8,355	1,977	106,354
Juin.....	776,413	10,462	786,875	5,460	325,498	350,657	41,227	53,571	8,206	2,256	107,192
Juillet.....	784,775	11,196	795,971	6,021	321,922	354,773	44,754	57,305	8,644	2,552	109,630
Août.....	773,045	11,575	784,620	5,891	311,718	356,476	41,907	57,053	8,530	3,045	111,181
Septembre.....	809,507	13,307	822,814	6,068	319,056	380,590	47,445	56,348	9,254	4,053	116,542
Octobre.....	902,968	15,914	918,882	6,127	349,108	428,113	57,924	61,691	5,384	10,531	126,143
Novembre.....	878,404	21,776	900,180	7,880	332,963	416,640	59,434	61,487	11,028	10,749	114,443
Décembre.....	950,228	16,169	966,397	8,432	371,006	444,038	62,654	64,098	12,491	3,678	117,002
Total	9,730,734	161,475	9,892,209	71,030	3,828,996	4,573,648	575,569	681,491	117,064	44,412	1,285,542
1926											
Janvier.....	936,034	15,416	951,450	6,955	352,194	441,911	61,692	73,282	12,130	3,286	113,026
Février.....	856,485	14,045	870,530	7,398	322,443	402,113	55,525	69,006	10,234	3,811	98,086
Mars.....	939,537	12,739	952,276	9,333	358,318	435,397	60,318	76,171	10,576	2,163	110,911
Avril.....	891,041	11,004	902,045	6,949	348,958	415,790	53,630	65,714	9,306	1,698	115,696
Mai.....	949,946	10,993	960,939	8,048	399,832	426,439	49,558	66,069	9,270	1,723	119,398
Juin.....	959,913	11,862	971,775	6,542	407,028	430,835	47,627	67,881	9,076	2,786	127,351
Juillet.....	952,711	13,458	966,169	6,969	411,974	418,930	44,655	70,183	9,580	3,878	132,225
Août.....	969,469	12,705	982,174	6,150	406,278	435,292	46,017	75,732	9,618	3,087	142,860
Septembre.....	992,793	15,383	1,008,176	4,504	404,016	456,039	55,183	73,051	10,228	5,155	146,678
Octobre.....	1,085,228	15,185	1,100,413	5,288	452,722	486,050	64,698	76,470	11,748	3,437	144,160
Novembre.....	1,096,629	15,434	1,112,063	9,571	473,552	466,988	70,246	76,272	13,100	2,334	128,041
Décembre.....	1,127,185	18,538	1,145,723	8,910	470,317	492,857	74,095	81,006	14,823	3,715	127,568
Total	11,756,971	106,762	11,923,733	86,617	5,807,632	5,308,640	683,244	870,837	129,689	37,073	1,506,000
1927											
Janvier.....	1,113,899	17,313	1,131,212	9,335	458,883	489,405	77,619	78,657	13,643	3,670	130,894
Février.....	1,050,057	15,793	1,065,850	9,038	453,160	437,367	77,421	73,071	11,826	3,967	121,829
Mars.....	1,133,785	16,223	1,150,008	11,022	496,012	472,850	81,303	72,598	11,800	4,423	133,702
Avril.....	1,094,646	15,075	1,109,721	9,650	489,349	446,662	76,248	72,737	11,024	4,051	129,709
Mai.....	1,101,834	13,768	1,115,602	7,038	503,566	442,946	73,979	74,305	10,482	3,286	124,749
Juin.....	1,094,726	13,201	1,107,927	5,599	509,764	441,493	64,953	72,917	10,249	2,952	139,439
Juillet.....	1,089,688	14,572	1,104,260	4,806	517,373	427,149	64,808	75,552	10,549	4,023	138,085
Août.....	1,213,531	15,558	1,229,089	8,077	561,292	489,234	71,902	83,026	11,007	4,551	157,197
Septembre.....	1,181,173	15,850	1,197,023	6,396	551,461	468,087	75,009	80,220	11,676	4,174	154,047
Octobre.....	1,289,967	19,203	1,309,170	8,937	614,274	493,093	87,717	85,946	12,814	6,389	142,991
Novembre.....	1,289,242	21,969	1,311,211	10,167	605,362	487,950	99,148	86,615	14,516	7,453	129,414
Décembre.....	1,339,206	22,658	1,361,864	10,686	637,615	498,254	100,776	91,875	16,609	6,049	130,558
Total	13,991,754	291,183	14,192,937	100,751	6,398,111	5,594,490	950,883	947,519	146,195	54,988	1,632,614

PRODUCTION DES USINES CENTRALES ÉLECTRIQUES EN CANADA—fin

(B) MOYENNE DE PRODUCTION QUOTIDIENNE

(En milliers de kilowatt-heures)

Mois	Totaux pour le Canada				Générés par pouvoir hydraulique				Générés par combustible		
	Eau	Com- bus- tible	Total	Pro- vinces Mari- times	Québec	Ontario	Pro- vinces des prai- ries	Co- lombie Britan- nique	Pro- vinces des prai- ries	Autres pro- vinces	Total expor- tations
1925											
Janvier.....	24,790	469	25,259	154	8,585	12,714	1,594	1,743	363	106	2,945
Février.....	25,184	439	25,623	172	9,529	12,307	1,486	1,691	345	94	2,831
Mars.....	25,556	396	25,952	174	10,022	12,134	1,385	1,841	321	75	3,231
Avril.....	26,126	387	26,513	168	10,653	12,062	1,389	1,854	306	81	3,544
Mai.....	25,992	333	26,325	165	10,790	11,796	1,439	1,802	270	63	3,431
Juin.....	25,880	349	26,229	182	10,850	11,688	1,374	1,786	273	76	3,573
Juillet.....	25,315	361	25,676	194	10,385	11,444	1,444	1,848	279	82	3,536
Août.....	24,937	373	25,310	190	10,056	11,499	1,352	1,840	275	98	3,586
Septembre.....	26,983	444	27,427	202	10,625	12,686	1,582	1,878	308	136	3,885
Octobre.....	29,128	513	29,641	198	11,262	13,810	1,868	1,990	340	173	4,069
Novembre.....	29,280	726	30,006	263	11,099	13,888	1,980	2,050	368	358	3,815
Décembre.....	30,653	521	31,174	272	11,968	14,324	2,021	2,068	402	119	3,774
Moyenne annuelle.....	26,659	442	27,101	195	10,490	12,531	1,576	1,867	321	121	3,522
1926											
Janvier.....	30,194	497	30,691	224	11,361	14,255	1,990	2,364	391	106	3,646
Février.....	30,580	502	31,091	264	11,516	14,361	1,983	2,464	365	137	3,503
Mars.....	30,308	411	30,719	301	11,558	14,046	1,946	2,457	341	70	3,578
Avril.....	29,701	367	30,068	231	11,632	13,860	1,788	2,190	310	57	3,857
Mai.....	30,643	355	30,998	260	12,898	13,756	1,599	2,130	290	56	3,852
Juin.....	31,997	305	32,302	218	13,567	14,361	1,538	2,263	303	92	4,245
Juillet.....	30,733	434	31,167	225	13,289	13,514	1,441	2,264	309	125	4,265
Août.....	31,273	410	31,683	199	13,105	14,042	1,484	2,443	310	100	4,608
Septembre.....	33,093	512	33,605	150	13,467	15,202	1,839	2,435	341	171	4,839
Octobre.....	35,007	490	35,497	170	14,604	15,679	2,087	2,467	379	111	4,650
Novembre.....	36,554	515	37,069	319	15,785	15,566	2,342	2,542	437	78	4,268
Décembre.....	36,361	598	36,959	287	15,172	15,899	2,390	2,613	478	120	4,115
Moyenne annuelle.....	32,211	457	32,668	237	13,172	14,544	1,872	2,386	355	102	4,126
1927											
Janvier.....	35,932	558	36,490	301	14,803	15,787	2,504	2,537	440	118	4,222
Février.....	37,502	564	38,066	323	16,184	15,620	2,765	2,610	422	142	4,351
Mars.....	36,574	523	37,097	356	16,000	15,253	2,623	2,342	381	142	4,313
Avril.....	36,488	502	36,990	322	16,311	14,889	2,542	2,424	367	135	4,327
Mai.....	35,543	444	35,987	227	16,244	14,286	2,386	2,397	338	106	4,024
Juin.....	36,491	440	36,931	186	16,992	14,716	2,165	2,432	342	98	4,648
Juillet.....	35,151	470	35,621	155	16,689	13,779	2,091	2,437	340	130	4,454
Août.....	39,146	502	39,648	261	18,106	15,782	3,319	2,678	355	147	5,071
Septembre.....	39,372	528	39,900	213	18,382	15,603	2,500	2,674	389	139	5,135
Octobre.....	41,612	619	42,231	288	19,816	15,906	2,829	2,773	413	206	4,613
Novembre.....	42,975	732	43,707	339	20,178	16,266	3,305	2,887	484	248	4,314
Décembre.....	43,200	731	43,931	345	20,568	16,073	3,250	2,964	536	195	4,211
Moyenne annuelle.....	38,333	551	38,884	276	17,529	15,327	2,695	2,596	401	150	4,473

APPENDICE "B"

NOMBRES-INDICES DES TARIFS DE L'ÉLECTRICITÉ POUR ÉCLAIRAGE DOMESTIQUE ET TABLEAUX DES COMPTES MENSUELS

Le Bureau Fédéral de la Statistique a déjà publié un rapport d'ensemble sur les nombres-indices du coût de l'électricité pour consommation domestique en 1913, 1923, 1924 et 1925. Dans le présent bulletin cette information est portée à date jusqu'à 1926.

Quelques corrections ont été faites dans les données déjà publiées à la suite d'informations supplémentaires. Les erreurs corrigées provenaient en plus grande partie de ce que plusieurs municipalités, dans la préparation de leur rapport, avaient omis de mentionner les montants pour service.

Vu la nature compliquée des tarifs et des comptes il est bon de répéter ici les explications données sur les méthodes employées dans la compilation des comptes et des nombres-indices.

Les tableaux ci-joints de nombres-indices des tarifs et comptes mensuels de l'électricité couvrent les débits pour l'éclairage dans les maisons privées et pour l'électricité employée à des appareils électriques tels que fer à repasser, grille-pain, percolateurs, grilleuses, chauffeuses, aspirateurs, cuisinières, etc., quand l'électricité pour ces différents appareils est vendue au même taux que pour l'éclairage. Ces données n'indiquent pas le prix général de l'électricité qui comprend le prix pour la force motrice et l'éclairage commercial. Dans la plupart des grandes usines c'est l'énergie pour force motrice qui absorbe la plus grande partie de la production, le courant vendu pour force motrice commandant un prix beaucoup moins élevé que le courant pour l'éclairage. C'est souvent la grande consommation pour force motrice qui permet de vendre à un taux relativement bas le courant pour l'éclairage.

En face des méthodes nombreuses et variées de comptabilité dans l'électricité, la méthode la plus générale étant une échelle mobile, le prix d'unité baissant en raison inverse de la consommation avec en plus une redevance fixe pour le service, il est impossible de faire des comparaisons directes de tarifs. C'est pourquoi les comptes mensuels ont été calculés pour différentes quantités d'électricité et là où des redevances fixes sont débitées, ayant pour base la surface des planchers, ou le nombre de chambres ou de lampes ou de souches, nous avons employé la formule suivante:

Consommation mensuelle Kilowatt-heures—	Chambre	Surface des planchers	Lampes de 16 bougies ou 25 w.
	nombre	pds carrés	
15.....	6	1,000	8
20.....	7	1,400	12
40.....	8	1,600	16
60.....	8	1,600	20
180.....	10	2,000	25

Là où ces redevances fixes sont appliquées, on a employé une charge de 6 kilowatts pour la cuisine, afin d'en arriver à une consommation de 180 kilowatt-heures. Partout où un escompte est donné pour les paiements rapides on en a tenu compte dans la consommation. Là où il n'y a pas de redevances fixes de service et où la consommation est sur un taux fixe, les comptes ont été calculés conformément.

La consommation mensuelle de 180 kilowatt-heures dépasse généralement ce que prend un domicile pour l'éclairage seulement et doit comprendre l'électricité employée pour la cuisine. Cependant, les comptes ont été calculés seulement sur le taux de l'éclairage tant dans les municipalités où le même taux est chargé pour les deux services que dans les municipalités ayant des taux différents pour l'éclairage et la cuisine. La seule manière de reconnaître le service de cuisine a été d'allouer une charge de 6 kilowatts dans les municipalités ayant une redevance fixe pour les cuisines basée sur la charge du courant.

Les consommations de 15, 20, 40, 60 et 180 kilowatt-heures par mois ont été choisies après une étude minutieuse de toutes les données disponibles, non seulement parce qu'elles sont approximativement les moyennes de plusieurs municipalités mais parce qu'elles couvrent un ensemble qui pourrait servir de comparaison au plus grand nombre de municipalités.

La méthode de computation des nombres-indices pour les municipalités est comme suit: Dans chaque cas le compte de 1913 sert de base et est représenté par 100 et les montants des comptes de 1924, 1925 et 1926, divisés par le montant du compte de 1913 et multipliés par 100, donnent les nombres-indices respectifs de chacune de ces années.

Les nombres-indices de chaque province sont pondérés pour donner les valeurs corrigées des changements dans les grandes villes où est consommée la plus grande partie de l'électricité, en multipliant les nombres-indices de chaque municipalité dans chaque province par le nombre de consommateurs en 1925 et en divisant la somme des produits par la somme du nombre des consommateurs. Par ce mode il a été trouvé nécessaire de choisir une des cinq séries de nombres-indices pour chaque municipalité et celle qui a été choisie est celle de la consommation parce qu'elle est la plus rapprochée de la moyenne actuelle de consommation pour cette municipalité.

Les nombres-indices du Dominion ont été computés en ajoutant les produits des consommateurs, et les nombres-indices municipaux dérivent de la computation des nombres-indices provinciaux de chaque année, tel qu'expliqué plus haut, par le nombre total des consommateurs des municipalités inclus dans ce rapport.

Il entre un très grand nombre de facteurs dans le prix de l'électricité et en comparant les prix des différentes municipalités ou même d'une municipalité pour différentes années, chacun de ces facteurs doit être pris en considération. Ces facteurs comprennent le coût de production à l'usine génératrice, la machinerie, les barrages, les réservoirs, les terres inondées, les lignes de transmission, les droits de passage, les sous stations, les lignes de distribution, etc., le prix d'exploitation, y compris les pertes d'énergie dans les transformateurs, les lignes de transmission et les lignes de distribution, le combustible, la main-d'œuvre, l'entretien, la dépréciation tant par l'usure que par la vieillesse, l'intérêt sur le capital, les taxes et la nature du marché ou le facteur de charge réglant le pourcentage de capacité total pouvant être utilisé. L'effet de chacun de ces facteurs sur le prix de l'électricité pour éclairage à domicile varie suivant les établissements et les endroits, et à moins d'une analyse approfondie il est impossible d'assigner à chacun de ces facteurs sa valeur approximative.

Les cinq tableaux de comptes mensuels et de nombres-indices ont été compilés pour chaque municipalité, un tableau pour chacun des cinq modes de consommation mentionnés ci-dessus (15, 20, 40, 60 et 180 kilowatt-heures). En face du nom de chaque municipalité on trouvera dans un des cinq tableaux la lettre majuscule "A." C'est pour indiquer lequel des modes de consommation est le plus rapproché du type de moyenne actuelle de consommation dans la municipalité concernée. Ainsi, chaque municipalité où la moyenne de consommation est au-dessous de 17·5 kilowatt-heures à la lettre majuscule "A" en face de son nom dans le tableau pour une consommation de 15 kilowatt-heures, et là où la moyenne de consommation est entre 17·5 et 30 kilowatt-heures un "A" est placé dans le tableau pour 20 kilowatt-heures, et ainsi de suite.

Les municipalités figurant dans ces tableaux ne sont pas toutes des cités ou villes ayant aujourd'hui de l'électricité ni des cités ou villes qui avaient de l'électricité en 1913, mais à quelques exceptions près, elles sont toutes des municipalités sur lesquelles il faut prendre des données pour 1913 et les trois dernières années, et les consommateurs dans ces municipalités forment plus de 75 p.c. du nombre total des consommateurs au Canada. Dans certaines municipalités le tarif qui était fixe en 1913 a été changé en échelle mobile plus tard et pour d'autres le tarif de 1913 n'est pas connu de sorte que les comparaisons ne sont pas toujours possibles.

Le nombre-indice pondéré de tout le Canada montre une réduction dans le prix d'électricité pour éclairage domestique de 31·3 p.c. entre 1913 et 1926. Quand on se rappelle que les prix de presque toutes les denrées ont augmenté sensiblement de même que le coût de tous les services tels que le transport, le téléphone, le service professionnel, etc., cette réduction est frappante. Basé sur les prix de 1913, le nombre-indice des prix de gros de 1926 est de 156·2. Les prix des denrées qui ont diminué sont rares; on y trouve le nickel, les peaux, le caoutchouc, etc., et dans plusieurs cas cette baisse est due à la surproduction, ce qui n'est pas le cas pour l'électricité. Les compagnies de génération élec-

trique ont éprouvé de la difficulté à se développer aussi rapidement que la demande et, bien que dans la plupart des municipalités il n'y ait aucune compagnie ou organisation vendant de l'énergie électrique, les prix ont été réduits dans leur ensemble. La moyenne de prix pour le volume global de l'électricité vendue au Canada pour toutes fins, y compris force motrice et éclairage en 1913, ne peut être établie; mais le prix moyen payé par les consommateurs, y compris les redevances pour service et les pertes par les lignes et transformateurs, était de 0.87c. en 1919, 0.91c. en 1920, 1.04c. en 1921, 0.92 c. en 1922, 0.83c. en 1923, 0.80c. en 1924 et 0.78c. en 1925. Ces moyennes sont affectées par les grands développements dans la production et aussi par une augmentation de charges d'éclairage, mais elles n'en sont pas moins intéressantes puisqu'elles donnent une indication de la tendance des prix de l'électricité.

On notera que les nombres-indices des provinces suivent de très près ceux de leurs grandes villes respectives, parce que c'est dans ces villes que se trouve le plus grand nombre de consommateurs. Ainsi le nombre-indice du Manitoba est baissé seulement d'une fraction de point parce qu'il n'y a pas eu de changement dans le tarif de Winnipeg. Cependant, les tarifs de Winnipeg étaient les plus bas au Canada en 1913 et même en 1926, elles sont très rares les municipalités dont les taux soient plus bas. Le plus grand changement en ces 13 années, 1913 à 1926, est une baisse de 39.4 points dans le nombre-indice de l'Ontario qui était de 60.6 en 1926. Le nombre-indice du Québec est 63.4; viennent ensuite la Colombie Britannique, le Nouveau-Brunswick, l'Alberta, la Nouvelle-Ecosse, la Saskatchewan, le Manitoba, le territoire du Yukon et l'île du Prince-Edouard.

L'effet de redevances fixés pour service et loyer de compteur est plus apparent dans les comptes des petits consommateurs que chez ceux consommant 40 kilowatt-heures et plus, et avec les échelles mobiles de taux, contribue à diminuer le prix d'unité à mesure qu'augmente la consommation. Ces deux facteurs expliquant certains conflits apparents dans la comparaison des comptes de différentes consommations d'une place avec ceux d'une autre. La grande majorité des municipalités a une charge minimum et dans certains cas la charge minimum est plus grande que dans le compte computé par 15 et 20 kilowatt-heures. Ceci explique pourquoi plusieurs municipalités ont la même charge pour ces deux consommations.

Bien que ces tableaux aient été compilés avec grand soin, il est possible que certains tarifs aient été mal interprétés ou que les informations reçues aient été ou incomplètes ou incorrectes. C'est pourquoi le Bureau invite les intéressés à lui signaler toutes erreurs possibles afin qu'il puisse les corriger dans ses prochains bulletins. Pour ces tableaux, voir pages 45-66.

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CANADA

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY, 1927

Electric Power

CENTRAL ELECTRIC STATIONS IN CANADA

(Prepared in collaboration with the Dominion Water, Power and Reclamation Service, Department of the Interior, with the assistance of The Ontario Hydro-Electric Power Commission, The Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and the Manitoba Power Commission)

Published by authority of the Hon. James Malcolm, M.P.,
Minister of Trade and Commerce



OTTAWA
F. A. ACLAND
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1927

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PREFACE

The data pertaining to the central electric station industry in Canada are collected and the report is compiled by the Bureau under authority of the Statistics Act, 8-9, George V, Chap. 43.

The Bureau is indebted to the Dominion Water Power and Reclamation Service of the Interior Department for checking both the schedules and the report, which was done under a co-operative arrangement made when the annual census was inaugurated. The Bureau also wishes to gratefully acknowledge the assistance received from the Electricity and Gas Inspection Service of the Department of Trade and Commerce and from the several provincial power commissions.

An annual report is also published by the Electricity and Gas Inspection Service Branch of the Department of Trade and Commerce, giving the names of all companies registered under the Electric Inspection Act, the type of prime mover, phase, frequency and voltages of each system and the number of meters in each municipality.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, May 31, 1929.

NOTE ON CANADIAN WATER POWERS

BY

The Dominion Water Power and Reclamation Service

The development of Canadian water powers had its inception in the efforts of the early French Settlers to provide power to meet local needs for grinding grain and sawing lumber. As settlement progressed the growth of industry led to the further development of water power, always, of necessity, in such close proximity to the manufacturing plants using it as to permit of its mechanical application by belts or shafting.

With the application of the electric generator to commercial uses a little over forty years ago a new industry, the production of electricity for public use, and a new era in the development of water power came into being and since that time the two have advanced together.

In 1890 Canada's total hydraulic installation was only 71,515 h.p. of which only 1,165 h.p. or less than 2 p.c. was installed in central electric stations but so outstanding were the advantages of electricity that during the year 1905 the hydraulic turbine installation in central stations had overtaken the combined installation of all other industries, and was 56 p.c. of the total by the end of that year. Since then the percentage of the total hydraulic installation in central electric stations has steadily risen until at the end of 1928 4,445,693 h.p. or 83.1 p.c. of the total installation of 5,349,232 h.p. for all purposes was installed in central electric stations while for the year 1927 the last for which definite figures of electrical output are available almost 99 p.c. of the total kilowatt hours of electricity produced originated in the energy of falling water.

The administration of the water resources of the Dominion, is in accordance with the terms of the British North America Act of 1867, a divided federal and provincial responsibility.

The federal authority extends over the water-powers of the provinces of Alberta, Saskatchewan and Manitoba and the Yukon and Northwest Territories, administrative control being exercised by the Dominion Water Power & Reclamation Service, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water power administration in their respective provinces. The federal Department of Railways & Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the provinces of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia and Prince Edward Island were the property of the respective provinces before Confederation, administrative control of water powers situated within these provinces became vested in the Legislative Assemblies, active administration being carried on in British Columbia,¹ by the Department of Lands; in Ontario, by the Department of Lands & Forests; in Quebec, by the Department of Lands & Forests; in New Brunswick by the Department of Lands & Mines; in Nova Scotia by the Commissioner of Public Works & Mines; and in Prince Edward Island by the Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and

¹Title to water powers in the Railway Belt of British Columbia is vested in the Federal Government, although they are at present administered under the Provincial Water Act.

to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

With the bringing into operation during 1928 of hydraulic turbines aggregating over 550,300 h.p., an installation only equalled once in former years, Canada's total hydraulic development reached the figure of 5,349,232 h.p. In addition, many large undertakings, some of which were nearing completion at the end of the year, while others were only in their initial stages, contributed to the year's activities and will ultimately add over 1,200,000 h.p. to the total.

For the fifth year in succession the province of Quebec led in new equipment brought into operation during the year. Of the 317,300 h.p. of new installation in the province almost all was in central electric stations, the most noteworthy being the completion of the initial installation of 204,000 h.p. in the Gatineau Power Company's Pagan station and the addition of 45,000 h.p., 43,000 h.p. and 20,000 h.p. respectively to the plants of the Duke-Price, the Shawinigan Water and Power Company and the Northern Quebec Power Company (Quinze Power Company).

British Columbia's new installation aggregated 79,560 h.p. mainly due to the completion of the South Slokan plant of the West Kootenay Power and Light Company, where 75,000 h.p. came into operation, the completion of the West Canadian Hydro-Electric Corporation's Shuswap Falls station near Vernon also contributing 3,800 h.p. to the total.

In Ontario 71,205 h.p. of new equipment came into operation, all with the exception of a few small installations of 100 h.p. or less being for the pulp and paper industry. The Spruce Falls Power and Paper Company completed its development at Smoky Falls, Mattagami river with an installation of 56,250 h.p., the power being transmitted over a 70 mile line to Kapuskasing. The Ontario and Minnesota Power Company completed the third of its Seine river developments, Calm Lake, the power from which is sold to an associated company at Fort Francis, while the Dryden Paper Company installed 2,000 h.p. in a new plant on the Eagle river.

In Manitoba the fifth and sixth units of 28,000 h.p. each were added to the Great Falls plant of the Manitoba Power Company, while in New Brunswick the first unit, 20,000 h.p., came into operation in the St. John River Power Company's Grand Falls station.

Three new installations in Nova Scotia, the largest that of the Avon River Power Company, 4,350 h.p., and one of 165 h.p. in Prince Edward Island, complete the total for the year.

The Dominion Water Power & Reclamation Service, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful re-analysis and computation by the Service, the total available and developed water-power resources of Canada are presented as follows:—

CENSUS OF INDUSTRY

WATER-POWER RESOURCES OF CANADA

Province	Available 24-hour power at 80 per cent efficiency		Turbine installation h.p.
	At ordinary minimum flow h.p.	At ordinary six months flow h.p.	
1	2	3	4
British Columbia.....	1,931,000	5,103,500	554,792
Alberta.....	390,000	1,049,500	34,532
Saskatchewan.....	542,000	1,082,000	35
Manitoba.....	3,309,000	5,344,500	311,925
Ontario.....	5,330,000	6,940,000	1,903,705
Quebec.....	8,459,000	13,064,000	2,387,118
New Brunswick.....	87,000	120,800	67,131
Nova Scotia.....	20,800	128,300	74,356
Prince Edward Island.....	3,000	5,300	2,439
Yukon and Northwest Territories.....	125,200	275,300	13,199
	20,197,000	33,113,200	5,349,232

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 42,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 554 horse power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro-power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, March 1, 1929.

CENTRAL ELECTRIC STATION INDUSTRY, 1927

The census of the central electric station industry in Canada is taken each year under authority of the Statistics Act, 1918 (8-9, George V, Chap. 43) by means of questionnaires or schedules sent by mail to all central electric stations. None of the data is collected by officials of the Bureau going into the field, but all schedules are examined and revised by the Bureau's staff and missing data or corrections are secured by correspondence.

For the purpose of the census, central electric stations are defined as companies, municipalities or individuals selling or distributing electric energy, whether generated by themselves or purchased for resale. The stations are divided into two classes according to ownership, viz., (a) commercial, those operated by companies or individuals, and (b) municipal, those operated by municipal, provincial or federal governments. The stations are also divided according to operation into (a) generating, those stations generating power which they sell; many of them also purchase power to supplement their own output, and (b) non-generating, those stations which purchase all the power they sell. In this second class there were 15 stations which were holding generating equipment classed as auxiliary plant equipment. Ten of them purchased all their electric energy and the remaining five generated only 124,000 kilowatt hours. This explains the rather anomalous item in table 14 showing the output of non-generating stations.

Included in these statistics are those of some stations engaged primarily in other industries, such as mining, manufacturing of pulp and paper, etc. which sell surplus power. For such plants, the statistics pertaining to the central electric station phase of the industry have been segregated as accurately as possible. An explanation of what is included in each of the tables and what each item covers will be given later when discussing tables 3 to 15 inclusive.

The growth of the industry as indicated by the output has been rapid and fairly steady. In 1919, the first year for which the output was tabulated, 5,497,204 kilowatt hours were generated, and in 1927 it had increased by 165 per cent and only one of these eight years showed a decrease, viz., 1921, when the output was 5 per cent less than that generated the previous year; but in 1922, 1923, 1926 and 1927 yearly increases of 20 per cent were made, as shown in the table below. The large increase in output of municipal stations and the decrease in output of commercial stations in 1923 was partly the result of the acquisition of the system of the Toronto Power Company by the Hydro Electric Power Commission of Ontario.

OUTPUT OF CENTRAL ELECTRIC STATIONS
(Thousands of Kilowatt Hours)

Year	Increase over previous year (Per cent)	Total	Commercial stations	Municipal stations
1927	20	14,549,099	9,944,422	4,604,677
1926	20	12,093,445	7,797,480	4,295,965
1925	9	10,110,459	6,527,103	3,583,356
1924	15	9,315,277	6,024,312	3,290,965
1923	20	8,099,192	5,074,120	3,025,072
1922	20	6,740,750	5,119,676	1,621,074
1921	-5	5,614,132	4,316,272	1,297,860
1920	7	5,894,867	4,456,428	1,438,439
1919		5,497,204	4,191,223	1,305,981

Electricity is exported from Canada only by license granted by the Electricity and Gas Inspection Service of the Department of Trade and Commerce,

and the same branch of the department has jurisdiction over the export duty which has been imposed since April 1, 1925. During the fiscal year ended March 31, 1928, the export duty amounted to \$373,676.21, as against \$357,421.89 for the previous year. The rate is three one-hundredths of one cent per kilowatt hour on all electric energy exported with certain exports excepted. Below is a table showing the quantities of power produced for export by each company and the total quantity generated by each for the calendar year 1927, the outputs shown being for the exporting stations only of these organizations. The Hydro Electric Power Commission's export data included 447,963,400 kilowatt hours and the Canadian Niagara Power Company's exports included 201,200 kilowatt hours of surplus power. In both cases the surplus power is power which is supplied as available. The data for this table were compiled from the annual report of the Director of the Electricity and Gas Inspection Services.

KILOWATT HOURS EXPORTED TO UNITED STATES IN 1927 AND OUTPUT OF EXPORTING STATIONS

Company	*Kilowatt hours produced for export	Total output
		Kilowatt hours
Hydro Electric Power Commission of Ontario.....	386,373,100	3,026,361,800
Hydro Electric Power Commission of Ontario (Surplus).....	447,963,400	447,963,400
Cedar Rapids Manufacturing & Power Company.....	412,247,091	829,576,713
Canadian Niagara Power Company.....	410,929,543	610,364,922
Canadian Niagara Power Company (Surplus).....	201,200	201,200
Western Power Company of Canada.....	757,168	189,923,000
Ontario & Minnesota Power Company.....	12,059,200	24,288,928
Maine and New Brunswick Electric Power Company.....	9,430,830	12,729,210
British Columbia Electric Company.....	872,905	143,874,700
West Kootenay Power and Light Company.....	555,600	476,199,100
Maritime Electric Company.....	546,764	1,842,366
Sherbrooke Railway and Power Company.....	366,537	12,567,711
International Electric Company.....	72,465	198,872
Fraser Companies.....	300,000	20,577,800
Total.....	1,682,675,803	5,796,674,722

*The difference between the amount produced for export and the quantity exported shown in Appendix A is the line loss between the generating station and the point of export.

TABLE 1.—COMPARATIVE SUMMARY, 1927-1923

The more important data of tables 3 to 15 are presented in table 1 for the five years 1927-1923 to facilitate comparisons and to show the fluctuations.

The data for 1927 show the largest yearly increase in capital, revenues, expenses, pole line mileage and output and, as explained under table 8, customers also would have shown the largest increase of any of these years but for a change in the basis of compilation. Changes in ownership of established stations affect the statistics of commercial and municipal stations and should be considered when comparing increases in the statistics of the two classes of stations. An example of the result of such a change is the increase in output for the five years 1923-1927 which shows 96.0 p.c. cent for commercial stations and 52.2 per cent for municipal stations, whereas in the 1926 report the increases for 1922-1926 were 52.3 per cent and 165.0 per cent respectively. This was largely due to the change in ownership in Ontario of the Toronto Power Company plant mentioned above.

TABLE 2.—SUMMARY OF PRINCIPAL DATA, 1927-1926

Water wheels and turbines constituted 95 per cent of the main plant primary power, also, as shown in table 14, the output was 98.6 per cent from hydraulic stations. The percentages computed show that the capital of commercial stations was 60.92 per cent of the total and that these stations generated 68.35 per cent of the output, employed 48.71 per cent of all the employees

and served 45.07 per cent of the customers. The non-generating stations served almost as many customers as the generating stations. The many municipalities in Ontario buying from the provincial commission are largely responsible for the high ratios shown in this table for the non-generating class.

TABLE 3.—POWER PLANTS

The definition of a central electric station as adopted for census purposes was given at the beginning of this report, and, according to this definition, the number of commercial and municipal organizations selling electric energy would be the number of stations. Some organizations, however, operate several systems which are in different municipalities and which are not connected by transmission lines and in other cases many municipalities are served from one power plant. The organizations reporting are counted as they report. If a commercial organization makes a separate report for each of its subsidiary companies, each such subsidiary company is counted and if it includes them all in one report, they are counted as only one organization. The nature of control is so varied that it is not practicable to do otherwise. The power plants shown in this table are individual plants, counted irrespective of ownership or location. In some cases two or more of these are operated by one company, some of them being close together, and others miles apart.

The number of power plants increased during the year by 34, the addition to hydraulic plants being 8 and to fuel plants, 26. The largest increase was in Saskatchewan where 19 additional plants were operated. The 158 Saskatchewan plants, all of which are fuel plants, are local systems and mostly small, averaging less than 500 horse power each, and, excepting the plants at Regina, Moose Jaw, Saskatoon and Prince Albert, they average only 115 horse power. Non-generating stations, or commercial organizations and municipalities buying the power they redistribute, increased from 460 in 1926 to 469; of these, 307 were in Ontario where a large number of municipalities purchase power from the provincial commission.

TABLE 4.—CAPITAL

The capital employed in the industry is reported under four heads, viz., generation, transmission, distribution, and general. Generation includes investments in power houses and sites, dams, penstocks, flumes, storage and regulating structures, surge tanks, storage basins, etc., and equipment in power houses, except step-up transformers or other transmission equipment. Transmission includes investments in receiving stations and sites, rights of way of transmission lines and step-up transformers. Distribution includes investments in substations and sites and rights of way of distribution lines, switch boards and step-down transformers in receiving stations and substations, distribution lines, line transformers, meters, etc. General includes investments in office buildings, sites and fixtures, materials and supplies on hand, cash, trading and operating accounts and bills receivable. The total represents the capital employed in the industry.

The total capital of \$866,825,285 was the largest invested in any industry in Canada except agriculture and railways. The manufacturing industry, next in magnitude in investments, was the pulp and paper with \$579,853,552. The increase during the year of \$110,605,219 was the largest made in any year and the chief factor was an increase of \$63,857,577 in commercial hydraulic stations in Quebec, while all commercial stations in Quebec showed an increase of \$64,319,614. The next largest increase was in Ontario commercial stations which showed an increase of \$24,168,844 and Ontario municipal stations increased by \$9,422,129. These three groups of stations accounted for over 88 per cent of the total increase for Canada.

TABLE 5.—REVENUE

The revenue is reported under two heads, (a) revenue received from sale of electricity for lighting purposes, and (b) revenue received from the sale of electricity for power purposes and to other stations for resale. The stations are asked to make this division and to estimate it where it is impossible to make the division accurately. There are large quantities of electricity interchanged between stations, some of it passing through three stations before reaching the consumer. It is quite evident that the total revenue reported by the stations would contain considerable duplication. The gross revenue of an individual station has some significance, but the gross revenue of a group of stations, including large sums of money which are payments of some of the stations of the group to other stations in the same group, is only confusing unless the amount of duplication of revenue is evident. For this reason the gross revenues are not shown in this report and all references to revenues are to net revenues. The net revenues are the total revenues reported by stations less the amounts paid for power interchanged between stations and consequently are the amounts paid by the consumers.

Total revenues showed an increase over those of 1926 of \$15,099,564, or 17 per cent. Quebec stations increased their revenues by \$7,867,967, Ontario stations by \$4,395,653, and British Columbia stations by \$1,396,506. The average revenue per kilowatt hour produced continued to show a decrease. In 1923 the average was .83 cent, in 1924 it dropped to .80 cent, in 1925 to .78 cent, in 1926 to .74 cent and in 1927 it was .72 cent. There are two main factors affecting these decreases, viz., increased consumption, especially by large power customers, and reduced rates, but it is extremely difficult to measure the effects separately. Quebec stations showed the lowest average with .52 cent and Manitoba was second with .62 cent. This decrease in Manitoba from .77 cent in 1926 to .62 cent in 1927 was largely effected by the sale of power to a paper mill, which started operating in 1927, for power purposes and also for water heating purposes. The current for the latter was surplus power sold at a very low rate. These averages are computed by using the total outputs of stations including all line and transformer losses and consequently the average revenues per kilowatt hour in Prince Edward Island and Saskatchewan, which are high, will be more nearly the average price paid by consumers for the power registered at their meters than in Ontario, Quebec and other provinces with extensive transmission and distribution lines, and consequently larger losses in current.

An error, commonly made, is to call the average revenue per kilowatt hour the cost of electricity to the consumers and to make the claim that stations with low average revenues per unit of output are selling electricity cheaper than stations with higher average revenues. The fallacy of such a statement is often quite evident when the actual costs of specific loads and consumptions are computed for different stations. The averages of revenue per kilowatt hour for some of the groups of stations shown in this table are several times higher than for others, but the actual costs for identical services in cities of approximately the same populations do not show anything like the same differences.

Low rates, of course, will produce a low average revenue, but the chief factor in the low averages in this table is the enormous quantity of power sold to large power customers using it more or less continuously the year round.

Appendix B of the 1926 report gave the domestic lighting bills for specific consumptions and at present the Bureau is engaged in bringing these bills up to date and in compiling similar data for commercial lighting and for power loads of 5 horse power, 25 horse power and 100 horse power. These data will give a much better basis for comparing actual costs than the present report.

TABLE 6.—EXPENSES

The expenses in table 6 are not the total expenses, but only the four items shown, viz., wages, fuel, taxes and cost of power and any computations of profits from these data should include estimates of other expenses. Taxes in this table include income taxes, federal and municipal, property and all other taxes. Many of the municipal stations pay little or no taxes, the total taxes reported by the municipal stations being only 9 per cent of the grand total although their capital was 39 per cent of the total capital and their revenue was 43 per cent of the total revenue. The taxes of the commercial stations amounted to 6.4 per cent of their net revenue, whereas with the municipal stations it was only 0.8 per cent. The cost of power is the amount paid by stations for power interchanged between stations. The non-generating stations purchase all the power they distribute, but generating stations also purchase considerable quantities from one another, the cost for 1927 for generating stations amounting to \$10,894,665, or over 35 per cent of the total for all stations. This total cost of power which was included in the gross revenue of the stations selling was deducted from the total gross revenue to obtain the net revenue shown in table 5. The fuel stations paid \$1,955,272 for fuel and produced 202,525,000 kilowatt hours, which was an average of .96 cent per kilowatt hour, whereas the auxiliary equipment of the hydraulic stations consumed fuel valued at \$342,416 and a few stations, which bought practically all the power they distributed and were classed as non-generating stations, accounted for the remainder of \$5,129 of the total fuel bill of \$2,302,817. Saskatchewan stations paid \$827,586, or 36 per cent of the total, Alberta stations paid \$479,342 and Nova Scotia stations paid \$236,792. Salaries and wages showed an increase of \$3,003,315, or 15 per cent, during the year, the largest increases being \$1,655,424 in Ontario, \$484,828 in British Columbia, and \$463,374 in Quebec.

TABLE 7.—EMPLOYEES

Stations are required to report all employees with their total salaries and wages and where an employee is engaged in other occupation, such as a man working for the electric light department and the water works department of a municipality, allowance is made for his part time. The number of employees on wages is the monthly average and consequently gives the correct weight to seasonal employees. The number of employees increased by 1,302, or 10 per cent, for an increase in the pay roll of \$3,003,315, or 15 per cent. The largest increase was in Quebec where 403 employees were added to the pay rolls. In British Columbia the increase was 368 employees and in Ontario, 195 employees, whereas Alberta stations showed a small decrease.

TABLE 8.—CUSTOMERS

Persons buying electricity for lighting residences are classified as domestic light customers. Stores, offices, schools, etc., buying electricity for lighting are classed as commercial light customers and customers buying electric energy on power rates are classified as power customers.

Small electrical heating or motor driven appliances are usually operated from the lighting circuits although in some cases special service charges, or special meterings of current for electric ranges and water heaters are made. Some duplication in the number of customers shown in the reports of previous years has occurred because of this dual metering and for that reason the number of customers given in this table and in tables 1 and 2 should not be directly compared with the corresponding figures given for previous years.

The average number of domestic light customers per 100 population shown at foot of the table was computed from the total domestic light customers

and the total population in each province as estimated by the Bureau from the official census data. British Columbia shows the greatest density with 18.04 domestic light customers per 100 population, Ontario is second with 15.45 and Quebec third with 12.56. To make a correct comparison of the densities in each province, the relative sizes of households should be considered. The 1921 population census gives the average number of persons in each household as:

Prince Edward Island.....	4.71
Nova Scotia.....	4.82
New Brunswick.....	5.04
Quebec.....	5.34
Ontario.....	4.30
Manitoba.....	4.73
Saskatchewan.....	4.49
Alberta.....	4.17
British Columbia.....	4.03
Canada.....	4.63

Applying these 1921 averages to the 1927 populations left British Columbia still at the top of the list with 72.7 domestic light customers per 100 households, but interchanged the positions of Ontario and Quebec, Quebec being second with 67.1 and Ontario third with 66.4 domestic light customers per 100 households. The high percentages in these three provinces, compared with the other provinces, are largely due to the concentrations of populations in the large urban centres and, as would be expected, the provinces which are largely agricultural showed smaller densities.

TABLE 9.—POLE LINE MILEAGE

The pole line mileage is divided into two divisions, (a) transmission, which includes lines from power houses to receiving stations, and (b), distribution, which includes lines from receiving stations to substations and to customers and, if the power is not stepped up in any power house for transmission, all the pole line mileage of that system is included with the distribution mileage. These mileages are counted irrespective of the number of circuits carried on the poles and towers. Pole line mileage increased by 3,878 miles during the year, 1,646 miles being transmission lines and 2,232 miles distribution lines. The largest increases were in Quebec and Ontario where 767 miles and 303 miles of transmission lines and 532 miles and 1,162 miles of distribution lines respectively were added.

TABLES 10-11-12.—EQUIPMENT

The equipment of the power houses has been divided into two classes, main plant and auxiliary, or standby equipment. The auxiliary plant equipment includes all steam engines and turbines and internal combustion engines and dynamos driven by them in hydro-electric stations and all the equipment in non-generating stations. All other equipment is classed as main plant equipment and includes water wheels and turbines and generators driven by them in hydro-electric stations and all equipment in plants using fuel only. It is quite possible that some of the fuel stations have equipment held as standby equipment for use only in emergencies or for occasional peaks and also that some hydraulic stations have hydraulic equipment similarly held, but it is all classified as main plant equipment. Although a few of the hydro-electric stations use their steam equipment more or less regularly during periods of low water and during periods of heavy demand, the greater part of it is held strictly in reserve for emergencies. Of the total of 145,047 horse power of auxiliary primary power, 11,983 horse power belonged to stations classed as non-generating and the remaining 133,064 horse power was auxiliary equipment of hydraulic stations.

There was a reduction in the auxiliary plant equipment of 31,818 horse power which included a reduction of 12,675 horse power in the standby equip-

ment of non-generating stations and of 19,143 horse power in steam equipment of hydraulic plants, whereas the capacity of water wheels and turbines in hydraulic stations was increased by 365,627 horse power. The fuel plants showed an increase in primary equipment of 38,399 horse power, practically all of which was in steam turbines, internal combustion engines showing only a small increase and steam reciprocating engines showing a decrease.

TABLE 13.—MAIN PLANT EQUIPMENT CLASSIFIED

The rating of water wheels, engines and dynamos used in these statistics is the manufacturers' rating, except where the stations have found from operation that the rating is different and have reported ratings which are average for normal operating conditions. A new class of hydraulic turbines was made in this report to segregate the large units of 25,000 horse power and over, which in 1927 averaged over 42,000 horse power. The nine units in this class in Ontario are all in the Queenston plant of the Ontario Hydro Electric Power Commission, and the nineteen Quebec units are distributed as follows: three in the Chelsea plant of the Gatineau Power Company; ten in the Duke-Price Power Company plant; four in the St. Maurice Power Company and one each in the Shawinigan Water and Power Company and the Ottawa River Power Company plants.

Although there were 311 D.C. dynamos operating, the majority of them, (279), were small, averaging less than 11.8 kilowatts each. These small dynamos were operated almost entirely by small gasoline engines.

TABLE 14.—ELECTRIC ENERGY GENERATED

The electric energy generated is the output at the power plants and consequently includes all transformer and line losses entailed in delivering power to the consumers. All the large stations meter their output and for those stations which have no watt hour meters, the kilowatt hours are estimated as best possible. The K.V.A. capacities shown were the rated dynamo capacities at the close of the year of both main and auxiliary plant of generating stations, but the ratios of output to maximum capacities were computed from the kilowatt hours generated and the rated capacities of dynamos multiplied by the number of hours during the year they were available. Thus the maximum capacity of a 1,000 K.V.A. dynamo for the year would be 8,760,000 kilowatt hours but if installed on November 30, its maximum capacity would be only 744,000 kilowatt hours. Consequently these ratios are directly comparable for each year irrespective of when large additions are made to the generating capacity of the industry and the rising and falling of the ratios indicate the relative position of the supply to the demand on a kilowatt hour basis. The output of 14,549,099,000 kilowatt hours was 2,455,654,000 kilowatt hours, or 20 per cent above the output in 1926 and the total output of generating stations was 49.5 per cent of the maximum capacity of the equipment, which was the highest ratio yet attained by the industry. In 1922 this ratio was 42.1 per cent; in 1923 it increased to 47.0 per cent, and in 1924 to 48.5 per cent. In 1925, with an increase of 25 per cent in the kilowatt hour capacity of the industry, the ratio dropped to 42.2 per cent, but increased in 1926 to 45.5 per cent and in 1927 to 49.5 per cent. The sale of surplus power at daily and seasonal off-peak periods greatly assists in raising these ratios. The pulp and paper mills have been using off-peak power to heat water for several years and in Ontario the provincial commission has been exporting off-peak power in fairly large quantities since 1925, as shown by the table of exports. Quebec commercial stations were the big factor in the increase of 2,464,336,000 kilowatt hours by generating stations. They increased their output by 1,594,879,000 kilowatt hours, or 32.6 per cent, and raised their operating ratio, or the ratio of output to maximum capacity, from 47.8 per cent in 1926 to 53.5 per cent.

Manitoba commercial stations increased their output by 225,860,000 kilowatt hours or by 78 per cent and raised their operating ratio from 41.5 per cent to 53.7 per cent. Additional equipment in Manitoba stations assisted in this increased output, but the pulp and paper mill mentioned above was largely responsible for the increase in both the output and the operating ratio. All commercial generating stations showed an increase of 2,149,193,000 kilowatt hours, or 27.6 per cent, the Quebec and Manitoba stations accounting for 85 per cent of the increase, and municipal generating stations showed an increase of 315,143,000 kilowatt hours, or 7.3 per cent.

The fuel stations produced 28,925,000 kilowatt hours more than in 1926 but their total output was only 16.2 per cent of their maximum capacity as against 15.4 per cent in 1926. There are few large fuel stations in Canada and the majority of the fuel stations are used largely to supply a lighting service, consequently their equipment is in full use only a small part of the time.

TABLE 15.—FUEL

The fuel reported includes fuel consumed by fuel stations and by the auxiliary equipment in hydraulic stations and in non-generating stations for generating power. A segregation of Canadian and imported fuel was made in the 1927 report. Only coal was imported for use by this industry and 68 per cent of it (by value) was used by Ontario stations. Saskatchewan stations used 67 per cent of the gasoline, 64 per cent of the kerosene and 49 per cent of the fuel oil by quantity, and, by value, 55 per cent of the total of these oil fuels.

A report somewhat similar to Appendix B of the 1926 report will be issued later. The base year used for computing the index number for domestic light has been changed to 1926 so that the report, besides bringing up to date the domestic light bills shown in the 1926 report, will include bills for many municipalities for which data were not available when 1913 was used as the base year. The report will also include somewhat similar bills for commercial light and power.

CENTRAL ELECTRIC STATIONS

15

Table 1—Comparative Summary, 1927-1923—Tableau 1—Résumé comparatif, 1927-1923

Principal Data by Class of Station Données principales par classes d'usines		1927	1926	1925	1924	1923	Per cent increase 1927 over 1923
							Pourcentage d'augmen- tation de 1927 sur 1923
Electric Power Plants—	Usines électriques—						
Total	Total	629	595	563	532	532	18.2
Hydraulic.....	Hydrauliques.....	302	294	284	273	269	12.2
Fuel.....	A combustible.....	327	301	279	259	263	24.3
Commercial.....	Commerciales.....	432	393	365	333	335	28.9
Municipal.....	Municipales.....	197	202	198	199	197	—
Capital	Capitaux—						
Total	Total	866,825,285	756,220,066	726,721,087	628,565,093	581,780,611	49.0
Commercial.....	Commerciales.....	528,070,964	430,817,426	409,862,801	326,554,580	307,046,240	72.0
Municipal.....	Municipales.....	338,754,321	325,402,640	316,858,286	302,010,513	274,734,371	23.3
Generating.....	Productrices.....	750,703,270	647,850,154	625,970,883	532,016,164	489,085,939	53.5
Non-generating.....	Non-productrices.....	116,122,015	108,369,912	100,750,204	96,548,929	92,694,672	25.2
Revenue	Recettes—						
Total	Total	104,033,297	88,933,733	79,341,584	74,616,863	67,496,893	54.1
Commercial.....	Commerciales.....	59,320,175	47,911,555	42,195,543	39,033,665	37,040,835	60.1
Municipal.....	Municipales.....	44,713,122	41,022,178	37,146,041	35,583,198	30,456,058	46.8
Generating.....	Productrices.....	86,369,058	72,123,290	63,547,553	59,861,915	52,681,003	63.9
Non-generating.....	Non-productrices.....	17,664,239	16,810,443	15,794,031	14,754,948	14,815,890	19.2
Expenses—	Dépenses—						
Total	Total	60,169,781	52,766,799	47,635,531	40,887,779	41,067,329	46.5
Commercial.....	Commerciales.....	28,704,496	24,622,619	21,325,649	16,777,557	15,319,394	87.4
Municipal.....	Municipales.....	31,465,285	28,144,180	26,309,882	24,110,222	25,747,935	22.2
Generating.....	Productrices.....	31,920,941	27,655,269	24,857,279	20,198,257	20,992,105	52.1
Non-generating.....	Non-productrices.....	28,248,840	25,111,530	22,778,252	20,689,522	20,075,225	40.7
Pole Line Mileage—	Lignes sur poteaux—						
Total	Total	33,573	29,695	27,653	26,654	23,560	42.5
Commercial.....	Commerciales.....	16,747	14,257	13,047	12,102	11,146	50.2
Municipal.....	Municipales.....	16,826	15,438	14,606	14,552	12,414	35.5
Generating.....	Productrices.....	23,246	20,005	18,372	17,340	14,405	61.4
Non-generating.....	Non-productrices.....	10,327	9,690	9,281	9,314	9,155	12.8
Customers—	Abonnés—						
Total	Total	1,381,968	1,337,562	1,279,731	1,200,950	1,112,547	24.2
Domestic light.....	Eclairage domes- tique.....	1,142,512	1,110,637	1,063,530	989,510	920,223	24.1
Commercial light.....	Eclairage com- mercial.....	199,431	188,553	180,994	176,444	159,929	24.7
Power.....	Force motrice.....	40,025	38,372	35,207	34,996	32,395	23.5
Commercial stations.....	Commerciales.....	622,823	584,760	559,172	521,064	496,591	25.4
Municipal stations.....	Municipales.....	759,145	752,802	720,559	679,886	615,956	23.2
Generating.....	Productrices.....	699,874	680,717	653,032	610,206	547,928	27.7
Non-generating.....	Non-productrices.....	682,094	656,845	626,699	590,744	564,619	20.8
Electric Energy Generated—	Energie Electrique produite—						
Total kilowatt hours (thousands)	K.W. heures pro- duites (milles)*	14,549,099	12,093,445	10,110,459	9,315,277	8,099,192	79.6
Commercial.....	Commerciales.....	9,944,330	7,797,480	6,527,103	6,024,312	5,074,120	96.0
Municipal.....	Municipales.....	4,604,769	4,295,965	3,583,356	3,290,965	3,025,072	52.2
Equipment in generating stations (main plant only).							
Machinery in the generating stations (Machines des usines principales)							
Total primary power	H.P.	4,173,349	3,769,323	3,569,527	2,849,450	2,423,845	72.2
Total force motrice primaire	H.P.						
Water wheels and turbines.....	No.	759	730	710	667	641	18.4
Turbines et roues hydrauliques.....	H.P.	3,975,012	3,609,385	3,416,018	2,707,957	2,282,547	74.1
Steam reciprocating engines.....	No.	134	151	147	147	150	—15.7
Machines à vapeur.....	H.P.	33,788	36,386	34,230	33,876	37,116	—9.0
Steam turbines.....	No.	61	47	43	40	38	60.5
Turbines à vapeur.....	H.P.	144,683	103,847	101,457	90,617	87,767	64.8
Internal combustion engines.....	No.	399	341	306	271	262	52.3
Moteurs à gaz et à pétrole.....	H.P.	19,866	19,705	17,822	17,000	16,415	21.0
Total in commercial stations.....	H.P.	2,797,055	2,423,244	2,243,318	1,701,393	1,451,498	92.7
Total in municipal stations.....	H.P.	1,376,294	1,346,079	1,326,209	1,147,657	972,347	41.5
Total in municipal stations.....	H.P.	1,376,294	1,346,079	1,326,209	1,147,657	972,347	41.5
Total secondary power	K.V.A.	3,385,227	2,995,387	2,844,709	2,282,046	1,862,195	81.8
Total force motrice secondaire	K.V.A.						
Dynamos, A.C.....	No.	1,008	977	935	881	863	16.8
Dynamos, C.A.....	K.V.A.	3,375,499	2,985,935	2,835,742	2,273,461	1,852,746	82.2
Dynamos, D.C.....	No.	311	249	231	206	208	49.5
Dynamos, C.D.....	K.W.	9,728	9,452	8,967	8,585	9,449	2.9
Total in commercial stations.....	K.V.A.	2,297,005	1,938,048	1,803,545	1,400,871	1,140,945	101.3
Total in municipal stations.....	K.V.A.	1,088,222	1,057,339	1,041,164	880,575	720,900	51.0
Total in municipal stations.....	K.V.A.	1,088,222	1,057,339	1,041,164	880,575	720,900	51.0

*Includes estimates for stations not reporting output.

*Comprend l'estimation des stations qui ne font pas connaître leur production.

CENSUS OF INDUSTRY

Table 2—Summary of Principal Data, 1927-1926

	Total		Commercial — Commerciales		Municipal — Municipales	
	1927	1926	1927	1926	1927	1926
	1	2	3	4	5	6
Total Number of Electric Power Plants...	629	595	432	393	197	202
No. of hydraulic plants.....	302	294	221	211	81	83
No. of fuel plants.....	327	301	211	182	116	119
Total Capital.....	866,825,285	756,220,066	528,070,964	430,817,426	338,754,321	325,402,640
Lands, buildings, equipment, etc.....	809,224,642	706,649,365	498,410,621	403,623,407	310,814,021	303,025,958
Materials on hand, cash trading accounts, etc.	57,600,643	49,570,701	29,660,343	27,194,019	27,940,300	22,376,682
Total Net Revenue from Sale of Electric Energy.....	104,033,297	88,933,733	59,320,175	47,911,555	44,713,122	41,022,178
For lighting purposes.....	45,832,886	42,045,674	—	—	—	—
For all other purposes.....	58,200,411	46,888,059	—	—	—	—
Expenses.....	60,169,781	52,766,799	28,704,496	24,622,619	31,465,285	28,144,180
Salaries and wages.....	22,946,315	19,943,000	9,839,682	8,596,178	13,106,633	11,346,822
Fuel.....	2,302,817	2,137,382	981,483	916,350	1,321,334	1,221,032
Cost of power.....	30,785,270	26,645,207	14,113,722	11,432,314	16,671,548	15,212,893
Taxes.....	4,135,379	4,041,210	3,769,609	3,677,777	365,770	363,433
Total Number of Employees.....	14,708	13,406	7,164	6,178	7,544	7,228
Total Mileage of Pole Lines.....	35,573	29,695	16,747	14,257	16,826	15,438
For transmission.....	12,291	10,645	7,484	5,918	4,807	4,727
For distribution.....	21,282	19,050	9,263	8,339	12,019	10,711
Total Number of customers.....	1,381,968	1,337,562	622,823	584,760	759,145	752,802
Domestic light.....	1,142,512	1,110,637	505,394	476,806	637,118	633,831
Commercial light.....	199,431	188,553	97,246	88,831	102,185	99,722
Power.....	40,025	38,372	20,183	19,123	19,842	19,249
Total K.W. Hours Generated (Thousands).	14,549,099	12,093,445	9,944,422	7,797,482	4,604,677	4,295,965
Total Power (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1927	1926	1927	1926	1927	1926
	1	2	3	4	5	6
Total Primary Power..... H.P.	4,173,349	3,769,323	2,797,055	2,423,244	1,376,294	1,346,079
Water wheels and turbines..... No.	759	730	557	531	202	199
H.P.	3,975,012	3,609,385	2,741,278	2,388,551	1,233,734	1,220,834
Steam reciprocating engines..... No.	134	151	70	76	64	75
H.P.	33,788	36,386	17,396	16,208	16,392	20,178
Steam Turbines..... No.	61	47	24	15	37	32
H.P.	144,663	103,847	30,731	12,224	113,952	91,623
Gas and oil engine..... No.	399	341	277	215	122	126
H.P.	19,866	19,705	7,650	6,261	12,216	13,444
Total Secondary Power..... K.V.A.	3,385,227	2,995,387	2,297,005	1,938,048	1,088,222	1,057,339
Dynamos, A.C..... No.	1,008	977	628	504	380	383
K.V.A.	3,375,499	2,985,935	2,290,325	1,932,005	1,085,174	1,053,930
Dynamos, D.C..... No.	311	249	268	206	43	43
K.W.	9,728	9,452	6,680	6,043	3,048	3,409

Tableau 2—Résumé comparatif des données principales, 1927-1926

Generating Productrices		Non-Generating Non-productrices		Per Cent of Column 1 Pour cent de la 1ère col.				
1927	1926	1927	1926	Com- mer- ciales 1927	Mu- nici- pales 1927	Gene- rating — Prod. 1927	Non Gen. — Non- prod. 1927	
7	8	9	10	11	12	13	14	
629 302 327	595 294 301	— — —	— — —	68.68 73.18 64.53	31.32 26.82 35.47	100.00 100.00 100.00	— — —	Nombre d'usines génératrices. Nombre d'usines hydrauliques. Nombre d'usines à combustible.
750,703,270 715,449,984	647,850,154 616,628,713	116,122,015 93,774,658	108,369,912 90,020,652	60.92 61.59	39.08 38.41	86.60 88.41	13.40 11.59	Total des capitaux. Terrains, bâtiments, aménagements, etc.
55,253,286	31,221,441	22,347,357	18,349,260	51.49	48.51	61.20	38.80	Matières premières en stock, fonds en caisse, créances à recouvrer, etc.
86,369,058	72,123,290	17,664,239	16,810,443	57.02	42.98	83.02	16.98	Total des recettes nettes par l'électri- cité vendue. Pour éclairage. Pour tous autres usages.
— —	— —	— —	— —	— —	— —	— —	— —	Dépenses. Traitements, appoint. et salaires. Combustible. Achat de force motrice électrique. Impôts.
31,920,941 14,984,593 2,297,688 10,894,665 3,743,995	27,655,269 13,429,385 2,110,780 8,564,504 3,550,600	28,248,840 7,951,722 5,129 19,890,605 391,384	25,111,530 6,512,715 26,602 18,080,703 490,610	47.71 42.88 42.62 45.85 91.16	52.29 57.12 57.38 54.15 8.84	53.05 65.30 99.78 35.39 90.54	46.95 34.70 .22 64.61 9.46	Nombre total du personnel. Long. en milles des lignes sur pote aux De transmission. De distribution.
9,965	8,767	4,743	4,639	48.71	51.29	67.75	32.25	Nombre total des abonnés des usines. Éclairage, commerçants. Éclairage, particuliers. Force motrice.
23,246 11,069 12,177	20,005 9,738 10,267	10,327 1,222 9,105	9,690 907 8,783	49.88 60.89 43.53	59.12 39.11 56.47	69.24 90.06 57.22	39.76 9.94 42.78	Total des kilowatt-heures produits (milliers).
699,874 575,040 102,526 22,308	689,717 565,452 94,990 20,275	682,094 567,472 96,905 17,717	656,845 545,185 93,563 18,097	45.07 44.24 48.76 50.43	54.93 55.76 51.24 49.57	59.64 50.33 51.41 55.74	49.36 49.67 48.59 44.26	
14,548,975	12,084,639	124	8,806	68.35	31.65	100.00	.00	
Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)				Total Power Equipment in Auxiliary Plants Machines des usines auxiliaires				
Per Cent of Cols. 1 & 2 Pourcent des col. 1 et 2				Per Cent of Totals of Columns 3, 4, 5 & 6 Pour cent des col. 3, 4, 5 et 6				
Commercial		Municipal		Commercial		Municipal		
1927	1926	1927	1926	1927	1926	1927	1926	
7	8	9	10	11	12	13	14	
57.02	64.29	32.98	35.71	100.0	100.0	100.0	100.0	145,047 176,865
73.39	72.74	26.61	27.26	—	—	—	—	—
38.96	66.18	31.04	33.82	98.0	98.5	89.6	90.7	—
12.24	50.33	47.76	49.67	—	—	—	—	39 48
11.49	44.54	48.51	55.46	00.6	00.7	1.2	1.5	13,338 22,529
19.34	31.91	60.66	68.09	—	—	—	—	34 33
1.24	11.77	78.76	88.23	1.1	00.5	8.3	6.8	128,965 151,615
9.42	63.00	30.58	37.00	—	—	—	—	18 16
8.51	31.80	61.49	68.20	00.3	00.3	0.9	1.0	2,744 2,721
7.85	64.70	32.15	35.30	—	100.0	100.0	100.0	121,863 145,825
2.36	60.80	37.64	39.20	—	—	—	—	76 86
7.85	64.70	32.15	35.30	99.7	99.7	99.7	99.7	120,788 143,503
6.17	82.70	13.83	17.30	—	—	—	—	4 6
8.67	63.90	31.33	36.10	0.3	0.3	0.3	0.3	1,075 2,325
								Turbines et roues hydrauliques.nomb. H.P.
								Machines à vapeur.....nomb. H.P.
								Turbines à vapeur.....nomb. H.P.
								Moteurs à gaz et à pétrole.....nomb. H.P.
								Total force motrice primaire, H.P.
								Total force motrice secondaire, K.V.A.
								Dynamos, C.A.....nomb. K.V.A.
								Dynamos, C.D.....nomb. K.W.

Table 3—Electric Power Plants, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Power Generating Stations.....	629	10	44	21	109	128
Percent of total for Canada.....	100.00	1.59	6.99	3.34	17.33	20.35
Commercial.....	432	8	26	14	96	81
Hydraulic.....	221	7	13	4	92	76
Fuel.....	211	1	13	10	4	5
Municipal.....	197	2	18	7	13	47
Hydraulic.....	81	—	13	3	11	43
Fuel.....	116	2	5	4	2	4
With water wheels and turbines only....	268	5	23	7	97	109
With water wheels, turbines and fuel auxiliary.....	34	2	3	—	6	10
With steam engines only.....	70	—	7	6	2	6
With steam turbines only.....	12	—	3	1	1	—
With gas or oil engines only.....	226	2	4	4	2	3
With both steam engines and turbines....	14	1	3	1	1	—
With both steam and gas or oil engines..	5	—	1	2	—	—
With both steam turbines and gas or oil engines.....	—	—	—	—	—	—
With steam engines, turbines and gas or oil.....	—	—	—	—	—	—
With alternating current dynamos only..	434	9	39	13	103	117
With direct current dynamos only.....	187	1	4	5	4	11
With both alternating and direct current dynamos.....	8	—	1	3	2	—
Commercial Organizations.....	473	10	41	27	89	82
Number generating power.....	377	8	24	14	61	67
Number buying power for redistribution.	96	2	17	13	28	15
Municipalities.....	539	2	28	15	46	314
Number generating power.....	166	2	14	7	11	22
Number buying power for redistribution.	373	—	14	8	29	292

Tableau 3—Usines génératrices, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
29	158	81	47	2	Nombre d'usines génératrices.
4-61	25-12	12-88	7-47	-32	Pourcentage du total pour le Canada.
13	107	52	33	2	Usines commerciales.
2	—	4	22	1	Hydrauliques.
11	107	48	11	1	A combustible.
16	51	29	14	—	Usines municipales.
2	—	1	8	—	Hydrauliques.
14	51	28	6	—	A combustible.
1	—	4	21	1	Avec roues et turbines hydrauliques seulement.
3	—	1	9	—	Avec roues et turbines hydrauliques plus usines auxiliaires.
10	7	25	6	1	Avec machines à vapeur seulement.
—	4	2	1	—	Avec turbines à vapeur seulement.
14	144	44	9	—	Avec moteurs à gaz ou à pétrole seulement.
1	3	3	1	—	Avec machines et turbines à vapeur à la fois.
—	—	2	—	—	Avec machines à vapeur, à gaz et à pétrole.
—	—	—	—	—	Avec turbines à vapeur et moteurs à gaz et à pétrole.
—	—	—	—	—	Avec machines à vapeur, turbines et moteurs à gaz et à pétrole.
19	52	41	40	1	Avec dynamos à courant alternatif seulement.
10	106	38	7	1	Avec dynamos à courant direct seulement.
—	—	2	—	—	Avec dynamos à courant alternatif et direct.
16	109	55	41	3	Usines commerciales.
13	107	48	33	2	Nombre d'usines génératrices.
3	2	7	8	1	Nombre d'usines achetant de l'électricité pour la revendre.
24	54	36	26	—	Municipalités.
16	51	29	14	—	Nombre d'usines génératrices.
8	3	7	12	—	Nombre d'usines achetant de l'électricité pour la revendre.

Table 4—Capital, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Total Capital	866,825,285	772,041	13,727,065	10,420,005	308,580,159	393,043,877
Per cent of total for Canada.....	100.00	.09	1.58	1.20	35.60	45.34
Generation.....	524,062,208	485,118	7,434,481	5,705,419	220,590,500	218,579,399
Transmission.....	127,587,887	—	2,188,695	1,218,648	38,057,747	68,934,333
Distribution.....	150,572,546	231,490	3,043,250	2,691,282	34,703,220	74,646,700
General.....	64,602,644	55,433	1,060,639	804,656	15,228,692	30,883,445
Total Capital in Commercial Stations	528,070,964	674,994	7,297,827	5,060,251	391,648,557	115,359,063
Generation.....	359,364,075	434,853	2,999,673	3,066,219	217,250,318	83,280,845
Transmission.....	68,167,494	—	1,407,927	177,898	37,817,444	14,935,913
Distribution.....	65,943,472	195,232	2,106,340	1,242,135	31,732,663	10,906,628
General.....	34,595,923	44,909	783,882	574,002	14,848,132	6,235,677
Non-generating stations.....	30,363,464	7,000	513,393	792,809	9,356,826	3,771,463
Generating stations.....	497,707,500	667,994	6,784,429	4,267,445	292,291,731	111,587,600
Hydraulic stations.....	485,314,480	106,150	2,141,738	1,497,889	292,138,809	111,564,848
Fuel stations.....	12,393,020	561,844	4,642,691	2,769,497	152,922	22,752
Total Capital in Municipal stations	338,754,321	97,047	6,429,243	5,359,751	6,931,602	277,684,814
Generation.....	164,698,133	50,265	4,434,808	2,639,200	3,340,182	135,298,554
Transmission.....	59,420,393	—	780,768	1,040,750	240,303	53,998,420
Distribution.....	84,629,074	36,258	936,910	1,449,147	2,970,557	63,740,072
General.....	30,006,721	10,524	276,757	230,654	380,560	24,647,768
Non-generating stations.....	85,758,551	—	810,454	1,196,555	1,415,515	79,617,510
Generating stations.....	252,995,770	97,047	5,618,789	4,163,196	5,516,087	198,067,304
Hydraulic stations.....	233,139,902	—	5,019,109	3,995,685	4,001,109	197,987,223
Fuel stations.....	19,855,868	97,047	599,680	167,511	1,514,978	80,081
Total Capital in Non-Generating Stations	116,122,015	7,000	1,323,847	1,989,364	10,772,341	83,388,973
Generation.....	3,114,613	—	229,957	183,000	2,598,161	—
Transmission.....	6,870,965	—	—	171,576	2,359,299	2,112,917
Distribution.....	82,611,560	6,200	875,768	1,351,417	4,962,147	62,540,222
General.....	23,524,877	800	218,122	283,371	852,734	18,735,834
Total Capital in Generating Stations	750,703,270	765,041	12,403,218	8,430,641	297,807,818	309,654,904
Generation.....	520,947,595	485,118	7,204,524	5,522,419	217,992,339	218,579,399
Transmission.....	120,716,922	—	2,188,695	1,047,072	35,698,448	66,821,416
Distribution.....	67,960,986	225,290	2,167,482	1,339,865	29,741,073	12,106,478
General.....	41,077,767	54,633	842,517	521,285	14,375,958	12,147,611
Hydraulic Stations.....	718,454,382	106,150	7,160,847	5,493,633	296,139,918	309,552,071
Generation.....	503,198,369	74,800	5,330,876	3,606,692	217,378,140	218,510,656
Transmission.....	119,250,156	—	967,397	1,047,072	35,698,448	66,820,916
Distribution.....	56,927,788	29,500	607,683	570,242	28,817,966	12,082,842
General.....	39,078,069	1,850	254,891	269,627	14,245,364	12,137,657
Fuel Stations.....	32,248,888	658,891	5,242,371	2,637,008	1,667,900	102,833
Generation.....	17,749,226	410,318	1,873,648	1,915,727	614,199	68,743
Transmission.....	1,466,766	—	1,221,298	—	—	500
Distribution.....	11,033,198	195,790	1,559,799	769,623	923,107	23,636
General.....	1,999,698	52,783	587,626	251,658	130,594	9,954
TOTAL CAPITAL						
Average per H.P. of Primary Power.....	208	230	241	288	176	254
Average per H.P. including Auxiliary equipment.....	201	226	230	270	173	247
Average per K.V.A. of Dynamo Capacity.....	256	264	297	364	210	317
Average per K.V.A. including Auxiliary equipment.....	247	264	284	344	207	308
Generation						
Average cost per H.P. (including auxiliary equipment).....	121	141	126	152	123	138
In all generating stations.....	122	205	162	153	122	138
In Hydraulic stations.....	89	134	77	151	153	65
In Fuel stations.....						
Transmission Lines						
Average per pole line mile.....	10,380	—	7,789	4,994	9,895	12,806
Distribution Lines						
Average per pole line mile.....	7,075	2,067	2,782	3,200	8,241	7,914

Tableau 4—Capitaux, 1927

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	
43,663,433 5.04	9,800,550 1.13	16,386,917 1.89	69,074,810 7.97	1,356,428 .16	Total des capitaux. Pourcentage du total pour le Canada.
21,453,465	6,104,081	9,095,490	33,538,954	1,075,301	Génération.
5,653,892	—	2,564,827	8,809,082	160,663	Transmission.
12,100,037	3,244,664	4,003,337	15,882,871	25,695	Distribution.
4,456,039	451,805	723,263	10,843,903	94,769	Généralités.
21,875,558	1,270,445	8,099,467	65,428,376	1,356,428	Total des capitaux dans les usines commerciales.
14,211,640	823,968	4,571,151	31,650,107	1,075,301	Génération.
2,640,153	—	2,421,391	8,606,105	160,663	Transmission.
4,235,765	338,488	662,991	14,497,535	25,695	Distribution.
788,000	107,989	443,934	10,674,629	94,769	Généralités.
720,258	13,500	68,793	14,978,835	140,587	Non-productrices.
21,155,300	1,256,945	8,030,674	50,449,541	1,215,841	Productrices.
19,762,804	—	6,687,603	50,208,420	1,206,660	Hydrauliques.
1,392,996	1,256,945	1,343,071	241,121	9,181	A combustible.
21,787,875	8,530,105	8,287,450	3,646,434	—	Total des capitaux dans les usines municipales.
7,241,825	5,280,113	4,524,339	1,888,847	—	Génération.
3,013,739	—	143,436	202,977	—	Transmission.
7,864,272	2,906,176	3,340,346	1,385,336	—	Distribution.
3,668,039	343,816	279,329	169,274	—	Généralités.
1,650,196	22,610	65,605	980,106	—	Non-productrices.
20,137,679	8,507,495	8,221,845	2,666,328	—	Productrices.
19,595,963	—	239,745	2,301,068	—	Hydrauliques.
541,716	8,507,495	7,982,100	365,260	—	A combustible.
2,370,454	36,110	134,398	15,958,941	140,587	Total des capitaux dans les usines non-productrices.
—	—	—	62,660	40,835	Génération.
860,923	—	—	1,366,250	—	Transmission.
1,188,048	34,405	114,136	11,514,879	24,338	Distribution.
321,483	1,705	20,262	3,015,152	75,414	Généralités.
41,292,979	9,764,440	16,252,519	53,115,869	1,215,841	Total des capitaux dans les usines productrices.
21,453,465	6,104,081	9,095,490	33,476,294	1,034,466	Génération.
4,792,989	—	2,564,827	7,442,832	160,663	Transmission.
10,911,989	3,210,259	3,889,201	4,367,992	1,357	Distribution.
4,134,556	450,100	703,001	7,828,751	19,355	Généralités.
39,358,267	—	6,927,348	52,509,488	1,206,660	Hydrauliques.
20,107,402	—	4,061,492	33,097,783	1,030,528	Génération.
4,757,440	—	2,355,388	7,442,832	160,663	Transmission.
10,460,749	—	186,500	4,172,306	—	Distribution.
4,032,676	—	323,968	7,796,567	15,469	Généralités.
1,834,712	9,764,440	9,325,171	606,381	9,181	A combustible.
1,346,063	6,104,081	5,033,998	378,511	3,938	Génération.
35,529	—	209,439	—	—	Transmission.
451,240	3,210,259	3,702,701	195,686	1,357	Distribution.
101,880	450,100	379,033	32,184	3,886	Généralités.
CAPITAL TOTAL					
166	132	160	212	135	Moyenne par H.P. de la machinerie d'énergie primaire.
150	159	153	189	133	Moyenne par H.P. y compris machinerie auxiliaire.
210	132	198	286	225	Moyenne par K.V.A. de la capacité des dynamos.
188	159	189	254	219	Moyenne par K.V.A. y compris machinerie auxiliaire.
Génération					
74	82	85	92	103	Moyenne par H.P. y compris machinerie auxiliaire —
71	—	107	92	103	Dans les usines productrices.
162	82	73	100	65	Dans les usines hydrauliques.
Dans les usines A combustible.					
Lignes de transmission.					
7,809	—	4,384	7,536	2,723	Moyenne par mille de ligne sur poteaux.
Lignes de distribution.					
9,696	3,928	3,512	6,707	2,570	Moyenne par mille de ligne sur poteaux.

Table 5—Revenue, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
*REVENUES						
Revenue from Sale of Electric Energy	104,033,297	172,197	2,463,923	1,503,019	33,761,967	44,173,983
Per cent of total for Canada.....	100.00	.17	2.37	1.44	32.45	42.46
For lighting purposes.....	45,832,886	145,933	1,606,441	1,011,063	10,720,082	19,379,348
For all other purposes.....	58,200,411	26,264	857,482	491,956	23,041,885	24,794,635
Revenue of Commercial Stations	59,320,175	132,826	1,469,641	788,407	32,436,020	11,461,259
Non-generating.....	4,968,273	667	106,054	179,948	1,263,993	387,792
Generating.....	54,351,902	132,159	1,363,587	608,459	31,172,027	11,073,467
Hydraulic.....	51,393,227	15,895	248,509	231,846	31,147,922	11,060,058
Fuel.....	2,958,675	116,264	1,115,078	376,613	24,105	13,409
Revenue of Municipal Stations	44,713,122	39,371	994,282	714,612	1,325,947	32,712,724
Non-generating.....	12,695,966	—	208,048	229,562	298,675	11,374,112
Generating.....	32,017,156	39,371	786,234	485,050	1,027,272	21,338,612
Hydraulic.....	25,875,864	—	588,765	443,440	740,845	21,305,324
Fuel.....	6,141,292	39,371	197,469	41,610	286,427	33,278
Revenue of Non-generating stations	17,664,239	667	311,102	409,510	1,562,668	11,761,904
Revenue of Generating stations	86,369,058	171,530	2,149,821	1,093,509	32,199,299	32,412,079
Revenue of Hydraulic stations	77,269,091	15,895	837,274	675,286	31,888,767	32,365,392
Revenue of Fuel Stations	9,099,967	155,635	1,312,547	418,223	310,532	46,687
Average net revenue per h.p. of primary power in main plants	24.93	51.37	41.40	41.55	19.26	28.53
Average net revenue per h.p. in main and auxiliary plants	24.41	50.38	39.93	39.01	18.97	36.00
Average net revenue per K.V.A. of dynamo capacity in main plants	30.73	58.93	53.39	52.49	23.02	35.58
Average net revenue per K.V.A. in main and auxiliary plants	29.66	58.93	51.06	49.64	22.64	34.64
Average net revenue per K.W.Hr. of all stations (cents).....	.72	8.54	2.94	2.83	.52	.76
Average net revenue per lighting customer	34.15	36.23	35.43	31.04	28.29	33.68
Average net revenue per power customer	1,462.58	130.68	565.99	554.63	2,084.67	1,655.85

* Gross revenue with duplications (cost of power) eliminated.

* Recettes brutes après élimination des doubles emplois, notamment, coût de la force motrice.

Tableau 5—Recettes, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	
5,409,242 5-20	3,371,814 3-24	3,580,203 3-44	9,515,650 9-15	81,299 0-08	RECETTES
3,493,098	2,486,094	2,508,004	4,428,842	53,981	Recettes provenant de la vente d'électricité.
1,916,144	885,720	1,072,199	5,086,808	27,318	Pourcentage du total pour le Canada.
					Pour l'éclairage.
					Pour tous autres usages.
2,648,919	555,210	1,150,961	8,595,633	81,299	Recettes des usines commerciales.
89,858	4,470	42,958	2,877,767	14,766	Non productrices.
2,559,061	550,740	1,108,003	5,717,866	66,533	Productrices.
2,327,232	—	657,788	5,650,513	53,464	Hydrauliques.
231,829	550,740	450,215	67,353	13,069	A combustible.
2,760,323	2,816,604	2,429,242	920,017	—	Recettes des usines municipales.
266,993	8,125	29,100	281,551	—	Non productrices.
2,493,330	2,808,479	2,400,142	638,666	—	Productrices.
2,271,322	—	40,037	486,121	—	Hydrauliques.
222,008	2,808,479	2,360,105	152,545	—	A combustible.
358,851	12,595	72,058	3,159,118	14,766	Recettes des usines non-génératrices.
5,052,391	3,359,219	3,508,145	6,356,532	66,533	Recettes des usines génératrices.
4,598,554	—	697,825	6,136,634	53,464	Recettes des usines hydrauliques.
453,837	3,359,219	2,810,320	219,898	13,069	Recettes des usines à combustible.
20-55	45-55	35-03	29-16	8-08	Moyenne des recettes nettes par h.p. de machinerie primaire dans les usines principales.
18-64	45-55	33-48	26-06	7-95	Moyenne des recettes nettes par h.p. de machinerie principales et auxiliaires.
26-07	54-67	43-30	39-45	13-48	Moyenne des recettes nettes par K.V.A. de la capacité des dyanmos des usines principales.
23-25	54-67	41-29	35-01	13-16	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos principales et auxiliaires.
62	3-94	2-29	98	97	Moyenne des recettes nettes par K.W. Heure (cents) de toutes les usines.
44-62	55-18	41-43	36-52	124-38	Moyenne des recettes nettes par abonnés d'éclairage.
597-49	427-26	478-23	1,398-24	9,106-00	Moyenne des recettes nettes par abonnés force motrice.

CENSUS OF INDUSTRY

Table 6—Expenses, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Total Expenses	60,169,781	78,469	1,586,666	937,284	14,624,841	32,127,215
Per cent of total for Canada.....	100.00	0.13	2.64	1.56	24.31	53.39
Salaries and wages.....	22,946,315	41,526	626,390	336,357	4,653,844	11,666,860
Fuel.....	2,302,817	36,400	236,792	130,474	35,026	194,032
Taxes.....	4,135,379	48	162,653	43,844	1,919,523	1,242,894
Cost of power.....	30,785,270	495	560,831	426,609	8,016,448	19,023,429
Total for Commercial Stations	28,704,496	63,689	1,158,331	579,395	13,922,740	6,516,740
Salaries and wages.....	9,839,682	35,444	420,451	209,822	4,355,084	1,654,751
Fuel.....	981,483	27,702	188,753	115,151	7,791	182,346
Taxes.....	3,769,609	48	162,496	43,696	1,918,284	956,730
Cost of power.....	14,113,722	495	386,631	210,726	7,641,581	3,722,913
Non-generating stations.....	5,690,825	495	128,597	215,392	1,317,572	1,614,068
Generating stations.....	23,013,671	63,194	1,029,734	364,003	12,605,168	4,902,672
Hydraulic stations.....	20,950,438	5,735	104,962	70,917	12,591,935	4,896,797
Fuel stations.....	2,063,233	57,459	924,772	293,086	13,233	5,875
Total for Municipal Stations	31,465,285	14,780	428,335	357,889	702,101	25,610,475
Salaries and wages.....	13,106,633	6,082	205,939	126,535	298,760	10,012,109
Fuel.....	1,321,334	8,698	48,039	15,323	27,235	11,686
Taxes.....	365,770	—	157	148	1,239	286,164
Cost power.....	16,671,548	—	174,200	215,883	374,867	15,300,516
Non-generating stations.....	22,558,015	—	212,934	283,156	320,163	21,294,796
Generating stations.....	8,907,270	14,780	215,401	74,733	381,938	4,315,679
Hydraulic stations.....	5,844,256	—	106,872	49,644	142,247	4,298,259
Fuel stations.....	3,063,014	14,780	108,529	25,089	239,691	17,420
Total Expenses for Non-generating Sta- tions.	28,248,840	495	341,531	498,548	1,637,735	22,908,864
Salaries and wages.....	7,961,722	—	71,629	115,868	289,376	6,389,624
Fuel.....	5,129	—	1,294	10	—	—
Taxes.....	391,384	—	9,087	9,068	56,242	104,242
Cost of power.....	19,890,605	495	259,521	373,602	1,292,117	16,414,998
Total Expenses for Generating Stations.	31,920,941	77,974	1,245,135	438,736	12,987,106	9,218,351
Salaries and wages.....	14,984,593	41,526	554,761	220,489	4,364,468	5,277,236
Fuel.....	2,297,688	36,400	235,498	130,464	35,026	194,032
Taxes.....	3,743,995	48	153,566	34,776	1,863,281	1,138,652
Cost of power.....	10,894,665	—	301,310	53,007	6,724,331	2,608,431
Hydraulic stations.....	26,794,694	5,735	211,834	120,561	12,734,182	9,195,056
Fuel stations.....	5,126,247	72,239	1,033,301	318,175	252,924	23,295

Tableau 6—Dépenses, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Bri- tannique	Yukon	
2,600,180 4.32	1,544,307 2.57	1,790,709 2.98	4,827,237 8.02	52,873 .09	Total des dépenses. Pourcentage du total pour le Canada.
1,604,613	681,713	858,376	2,443,707	32,929	Traitements, appointements et salaires.
195,812	827,586	479,342	161,719	5,634	Combustible.
151,201	17,284	51,690	545,146	1,096	Taxes.
648,554	17,724	401,301	1,676,665	13,214	Achat d'énergie électrique.
1,301,841	286,992	526,319	4,295,576	52,873	Total pour les usines commerciales.
497,408	122,572	313,779	2,197,442	32,929	Traitements, appointements et salaires.
121,490	154,321	138,230	40,065	5,634	Combustible.
103,416	7,131	31,749	544,963	1,096	Taxes.
579,527	2,968	42,561	1,513,106	13,214	Achat d'énergie électrique.
116,922	3,754	60,875	2,215,723	17,427	Usines non-productrices.
1,184,919	283,238	465,444	2,079,853	35,446	Usines productrices.
1,005,653	—	218,580	2,032,247	23,612	Usines hydrauliques.
179,266	283,238	246,864	47,606	11,834	Usines à combustible.
1,298,339	1,257,315	1,264,390	531,661	—	Total pour les usines municipales.
1,107,205	559,141	544,597	246,265	—	Traitements, appointements et salaires.
74,322	673,265	341,112	121,654	—	Combustible.
47,785	10,153	19,941	183	—	Taxes.
69,027	14,756	358,740	163,559	—	Achat d'énergie électrique.
179,012	16,857	40,350	210,747	—	Usines non-productrices.
1,119,327	1,240,458	1,224,040	320,914	—	Usines productrices.
989,633	—	10,057	247,544	—	Usines hydrauliques.
129,694	1,240,458	1,213,983	73,370	—	Usines à combustible.
295,934	20,611	101,225	2,426,470	17,427	Total des dépenses pour les usines non-productrices
117,188	2,887	27,779	944,054	3,317	Traitements, appointements et salaires.
6,438	—	3,825	—	—	Combustible.
172,308	17,724	1,477	203,934	896	Taxes.
		68,144	1,278,482	13,214	Achat d'énergie électrique.
2,304,246	1,523,696	1,689,484	2,400,767	35,446	Total des dépenses pour les usines productrices.
1,487,425	678,826	830,597	1,499,653	29,612	Traitements, appointements et salaires.
195,812	827,586	475,517	161,719	5,634	Combustible.
144,763	17,284	50,213	341,212	200	Taxes.
476,246	—	333,157	398,183	—	Achat d'énergie électrique.
1,995,286	—	228,637	2,279,791	23,612	Usines hydrauliques.
308,960	1,523,696	1,460,847	120,976	11,834	Usines à combustible.

CENSUS OF INDUSTRY

Table 7—Employees, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Persons Employed.....	14,708	41	514	285	3,532	6,501
Per cent of total for Canada.....	100.00	.28	3.49	1.94	24.01	44.20
Officers, clerks, othersalaried employees, etc.	6,009	15	202	139	1,333	2,898
Employees on wages.....	8,699	26	312	146	2,199	3,603
Total Employees in Commercial Stations..	7,164	34	348	183	3,291	1,164
Officers, clerks, othersalaried employees, etc.	2,520	10	139	57	1,229	371
Employees on wages.....	4,644	24	209	126	2,062	793
Non-generating.....	964	—	40	44	212	105
Generating.....	6,200	34	308	139	3,079	1,059
Hydraulic.....	5,558	8	100	31	3,073	1,055
Fuel.....	642	26	208	108	6	4
Total Employees in Municipal Stations...	7,544	7	166	102	241	5,337
Officers, clerks, othersalaried employees, etc.	3,489	5	63	82	104	2,527
Employees on wages.....	4,055	2	103	20	137	2,810
Non-generating.....	3,779	—	41	65	69	3,456
Generating.....	3,765	7	125	37	172	1,881
Hydraulic.....	2,812	—	84	29	108	1,875
Fuel.....	953	7	41	8	64	6
Total Employees in Non-generating Sta- tions.	4,743	—	81	109	281	3,561
Officers, clerks, othersalaried employees, etc.	2,361	—	45	77	114	1,755
Employees on wages.....	2,382	—	36	32	167	1,806
Total Employees in Generating Stations.	9,965	41	433	176	3,251	2,940
Officers, clerks, othersalaried employees, etc.	3,648	15	157	62	1,219	1,143
Employees on wages.....	6,317	26	276	114	2,032	1,797
Hydraulic.....	8,370	8	184	60	3,181	2,930
Fuel.....	1,595	33	249	116	70	10

Tableau 7—Personnel, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
1,064	496	630	1,631	14	Total du personnel occupé.
7.23	3.38	4.28	11.09	10	Pourcentage du total pour le Canada.
410	257	251	501	3	Administrateurs, directeurs, commis et tous employés des bureaux.
654	239	379	1,130	11	Ouvriers et journaliers.
331	128	217	1,454	14	Personnel des usines commerciales.
119	87	76	429	3	Administrateurs, directeurs, commis et tous employés des bureaux.
212	41	141	1,025	11	Ouvriers et journaliers.
5	2	22	532	2	Non productrices.
326	126	195	922	12	Productrices.
284	—	106	892	9	Hydrauliques.
42	126	89	30	3	A combustible.
733	368	413	177	—	Personnel des usines municipales.
291	170	175	72	—	Administrateurs, directeurs, commis et tous employés des bureaux.
442	198	238	105	—	Ouvriers et journaliers.
93	5	10	40	—	Non productrices.
640	363	403	137	—	Productrices.
591	—	14	111	—	Hydrauliques.
49	363	389	26	—	A combustible.
98	7	32	572	2	Total du personnel des usines non productrices.
21	6	18	325	—	Administrateurs, directeurs, commis et tous employés des bureaux.
77	1	14	247	2	Ouvriers et journaliers.
966	489	598	1,059	12	Total du personnel des usines productrices.
389	251	233	176	3	Administrateurs, directeurs, commis et tous employés des bureaux.
577	238	365	883	9	Ouvriers et journaliers.
875	—	120	1,003	9	Hydrauliques.
91	489	478	56	3	A combustible.

CENSUS OF INDUSTRY

Table 8—Number of Customers, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Number of Customers	1,381,968	4,231	46,897	33,479	390,089	590,462
Per cent of total for Canada.....	100.00	.31	3.39	2.42	28.23	42.73
Domestic light.....	1,142,512	3,133	37,735	27,144	327,155	492,361
Commercial light.....	199,431	895	7,611	5,430	51,801	83,081
Power.....	40,025	203	1,551	905	11,133	15,020
Total Number of Customers of Commercial Stations.	622,823	3,493	31,824	18,293	348,226	65,970
Domestic light.....	505,394	2,598	25,320	14,070	289,896	50,112
Commercial light.....	97,246	707	5,335	3,605	48,186	13,192
Power.....	20,183	188	1,169	618	10,144	2,666
Non-generating.....	137,814	54	5,351	7,360	28,379	14,399
Generating.....	485,009	3,439	26,473	10,933	319,847	51,571
Hydraulic.....	426,841	757	3,565	1,378	319,274	51,355
Fuel.....	58,168	2,682	22,908	9,555	573	216
Total Number of Customers of Municipal Stations.	759,145	738	15,073	15,186	41,863	524,492
Domestic light.....	637,118	535	12,415	13,074	37,259	442,249
Commercial light.....	102,185	188	2,276	1,825	3,615	69,889
Power.....	19,842	15	382	287	989	12,354
Non-generating.....	544,280	—	7,158	11,096	18,107	488,623
Generating.....	214,865	738	7,915	4,090	23,756	35,869
Hydraulic.....	106,996	—	3,008	3,078	14,280	35,307
Fuel.....	107,869	738	4,907	1,012	9,476	562
Total Number of Customers of Non-generating Stations.	682,094	54	12,509	18,456	46,486	503,022
Domestic light.....	567,472	48	10,315	15,286	39,986	418,872
Commercial light.....	96,905	4	1,902	2,799	4,750	71,886
Power.....	17,717	2	292	371	1,750	12,264
Total Number of Customers of Generating Stations.	699,874	4,177	34,388	15,023	343,603	87,440
Hydraulic stations.....	533,837	757	6,573	4,456	333,554	86,662
Domestic light.....	444,670	629	5,327	3,996	278,212	72,865
Commercial light.....	73,043	117	1,041	360	46,177	11,043
Power.....	16,124	11	205	100	9,165	2,754
Fuel Stations.....	166,037	3,420	27,815	10,567	10,049	778
Domestic light.....	130,370	2,456	22,093	7,862	8,957	624
Commercial light.....	29,483	774	4,668	2,271	874	152
Power.....	6,184	190	1,054	434	218	2
Average Number of Domestic Light Customers per 100 of Population.	14.52	3.61	6.95	6.60	12.56	15.45

Table 9—Pole Line Mileage, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Pole Line Mileage	33,573	112	1,375	1,085	8,057	14,815
Per cent of total for Canada.....	100.00	.33	4.10	3.23	24.00	44.13
For transmission.....	12,291	—	281	244	3,846	5,383
For distribution.....	21,282	112	1,094	841	4,211	9,432
Total Pole Line Mileage—Commercial Stations.	16,747	98	905	498	7,502	2,538
Non-generating.....	3,411	9	229	199	1,093	210
Generating.....	13,336	89	676	299	6,409	2,328
Hydraulic.....	11,933	48	269	56	6,394	2,322
Fuel.....	1,403	41	407	243	15	6
Total Pole Line Mileage—Municipal Stations.	16,826	14	470	587	555	12,277
Non-generating.....	6,916	—	179	177	270	5,515
Generating.....	9,910	14	291	410	285	6,762
Hydraulic.....	8,335	—	202	379	237	6,744
Fuel.....	1,575	14	89	31	48	18
Total Pole Line Mileage—Non-Generating Stations	10,327	9	408	376	1,363	5,725
Total Pole Line Mileage Generating Stations.	23,246	103	967	709	6,694	9,090
Hydraulic stations.....	20,268	48	471	435	6,631	9,066
Fuel stations.....	2,978	55	496	274	63	24

Tableau 8—Abonnés, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
81,505 5-90	47,133 3-41	62,787 4-54	104,947 9-04	438 -03	Nombre d'abonnés. Pourcentage du total pour le Canada.
65,657	35,507	49,795	103,707	318	Eclairage, particuliers.
12,631	9,548	10,740	17,578	116	Eclairage, commerçants.
3,217	2,078	2,252	3,662	4	Force motrice.
28,443	9,481	14,124	102,531	438	Nombre total des abonnés des usines commerciales.
21,076	6,736	9,963	85,305	318	Eclairage, particuliers.
5,587	2,651	3,601	14,266	116	Eclairage, commerçants.
1,780	94	560	2,960	4	Force motrice.
4,583	224	1,689	75,487	288	Non-productrices.
23,860	9,257	12,435	27,044	150	Productrices.
19,731	—	5,114	25,662	5	Hydrauliques.
4,129	9,257	7,321	1,382	145	A combustible.
53,062	37,652	48,663	22,416	—	Nombre total des abonnés des usines municipale.
44,581	28,771	39,832	18,402	—	Eclairage, particuliers.
7,044	6,897	7,139	3,312	—	Eclairage, commerçants.
1,437	1,984	1,692	702	—	Force motrice.
5,987	469	1,428	11,412	—	Non-productrices.
47,075	37,183	47,235	11,004	—	Productrices.
43,116	—	692	7,515	—	Hydrauliques.
3,959	37,183	46,543	3,489	—	A combustible.
10,570	693	3,117	86,899	288	Nombre des abonnés des usines non-productrices.
8,712	535	2,557	70,953	208	Eclairage, particuliers.
1,499	143	462	13,380	80	Eclairage, commerçants.
359	15	98	2,566	—	Force motrice.
70,935	46,440	59,670	38,048	150	Nombre total des abonnés des usines productrices
62,847	—	5,806	33,177	5	Hydrauliques.
51,141	—	3,706	28,794	—	Eclairage, particuliers.
9,124	—	1,779	3,401	1	Eclairage, commerçants.
2,582	—	321	982	4	Force motrice.
8,088	46,440	53,864	4,871	145	A combustible.
5,804	34,972	43,532	3,960	110	Eclairage, particuliers.
2,008	9,405	8,499	797	35	Eclairage, commerçants.
276	2,063	1,833	114	—	Force motrice.
10-15	4-25	8-07	18-04	9-16	Moyenne des consommateurs d'éclairage électrique par 100 habitants.

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1927

1,972 5-87	826 2-46	1,725 5-14	3,537 10-54	69 -20	Longueur totale en milles des lignes sur poteaux. Pourcentage au total pour le Canada.
724	—	585	1,169	59	Pour la transmission.
1,248	826	1,140	2,368	10	Pour la distribution.
930	273	983	2,951	69	Pour le service des usines commerciales.
175	9	33	1,448	6	Non-productrices.
755	264	950	1,503	63	Productrices.
686	—	633	1,464	61	Hydrauliques.
69	264	317	39	2	A combustible...
1,042	553	742	586	—	Pour le service des usines municipales.
452	14	40	269	—	Non-productrices.
590	539	702	317	—	Productrices.
515	—	18	240	—	Hydrauliques.
75	539	684	77	—	A combustible.
627	23	73	1,717	6	Pour le service des usines non-productrices.
1,345	803	1,652	1,820	63	Pour le service des usines productrices.
1,201	—	651	1,704	61	Hydrauliques.
144	803	1,001	116	2	A combustible.

Table 10—Equipment, 1927

TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.	4,318,396	3,418	59,093	38,528	1,780,708	1,590,174
Per cent of total for Canada.....	100.00	.08	1.37	.89	41.24	36.82
Water wheels and turbines..... No.	759	8	39	14	264	329
Total capacity..... H.P.	3,975,012	299	32,540	25,160	1,748,755	1,547,218
Steam engines..... No.	173	2	28	18	12	20
Total capacity..... H.P.	47,126	410	8,503	5,436	4,900	5,748
Steam turbines..... No.	95	2	13	F	8	6
Total capacity..... H.P.	273,648	2,173	17,525	6,408	26,965	36,500
Gas and oil engines..... No.	417	5	9	12	4	9
Total capacity..... H.P.	22,610	536	525	1,524	88	708
Total Dynamo Capacity..... K.V.A.	3,597,090	2,922	48,254	30,279	1,491,515	1,275,131
Per cent of total for Canada.....	100.00	.08	1.38	.86	42.53	36.36
Dynamos, A.C..... No.	1,084	13	84	40	269	329
Capacity..... K.V.A.	3,496,287	2,914	47,059	29,239	1,490,341	1,273,929
Dynamos, D.C..... No.	315	1	8	10	7	14
Capacity..... K.W.	10,803	8	1,195	1,040	1,174	1,202
Commercial Stations						
Total Primary Power..... H.P.	2,911,729	2,888	27,880	24,953	1,755,853	526,943
Water wheels and turbines..... No.	557	8	17	8	244	205
Total capacity..... H.P.	2,741,278	299	5,895	13,100	1,727,440	489,684
Steam engines..... No.	91	2	19	15	6	8
Total capacity..... H.P.	24,011	410	5,925	5,021	2,700	1,298
Steam turbines..... No.	49	2	9	6	7	4
Total capacity..... H.P.	138,256	2,173	15,950	6,408	25,625	35,800
Gas and oil engines..... No.	285	1	8	6	4	5
Total capacity..... H.P.	8,184	6	110	424	88	161
Total Dynamo Capacity..... K.V.A.	2,395,130	2,457	22,683	19,712	1,471,895	451,059
Dynamos, A. C..... No.	673	9	42	26	240	196
Capacity..... K.V.A.	2,388,250	2,449	21,913	18,728	1,470,721	450,307
Dynamos, D.C..... No.	269	1	6	9	7	13
Capacity..... K.W.	6,880	8	770	984	1,174	752
Municipal Stations.						
Total Primary Power..... H.P.	1,406,667	530	31,213	13,575	24,855	1,063,231
Water wheels and turbines..... No.	202	—	22	6	20	124
Total capacity..... H.P.	1,233,734	—	26,645	12,060	21,315	1,057,534
Steam engines..... No.	82	—	9	3	6	12
Total capacity..... H.P.	23,115	—	2,578	415	2,200	4,450
Steam turbines..... No.	46	—	4	—	1	2
Total capacity..... H.P.	135,392	—	1,575	—	1,340	700
Gas and oil engines..... No.	132	4	6	6	—	4
Total capacity..... H.P.	14,426	530	415	1,100	—	547
Total Dynamo Capacity..... K.V.A.	1,111,960	465	25,571	10,567	19,629	824,072
Dynamos, A. C..... No.	411	4	42	14	29	133
Capacity..... K.V.A.	1,108,037	465	25,146	10,511	19,620	823,622
Dynamos, D.C..... No.	46	—	2	1	—	1
Capacity..... K.W.	3,923	—	425	56	—	450

Table 10—Machinerie, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
290,196	74,022	106,924	365,113	19,220	Total, force motrice primaire H.P.
6.72	1.71	2.48	8.45	24	Pourcentage du total pour le Canada.....
30	—	16	57	2	Turbines et roues hydrauliques..... Nomb.
254,925	—	33,520	322,595	10,000	Capacité totale..... H.P.
19	17	43	13	1	Machines à vapeur..... Nomb.
4,937	4,288	10,675	2,169	60	Capacité totale..... H.P.
7	18	19	15	1	Turbines à vapeur..... Nomb.
28,840	57,737	59,925	37,415	160	Capacité totale..... H.P.
26	244	87	21	—	Moteurs à gaz et à pétrole..... Nomb.
1,494	11,997	2,804	2,934	—	Capacité totale..... H.P.
232,654	61,672	86,710	271,773	6,180	Capacité des dynamos K.V.A.
6.63	1.76	2.47	7.75	18	Pourcentage du total pour le Canada.....
65	97	86	98	3	Dynamos, C. A..... Nomb.
232,257	59,278	83,707	271,413	6,150	Capacité totale..... K.V.A.
16	173	74	10	2	Dynamos, C. D..... Nomb.
397	2,394	3,003	360	30	Capacité totale..... K.W.
Usines commerciales					
167,707	6,195	43,707	345,383	10,220	Total, force motrice primaire H.P.
13	—	14	46	2	Turbines et roues hydrauliques..... Nomb.
149,800	—	32,560	312,500	10,000	Capacité totale..... H.P.
9	9	14	8	1	Machines à vapeur..... Nomb.
3,507	1,336	2,660	1,094	60	Capacité totale..... H.P.
4	—	6	10	1	Turbines à vapeur..... Nomb.
14,100	—	6,775	31,265	160	Capacité totale..... H.P.
9	176	70	11	—	Moteurs à gaz et à pétrole..... Nomb.
300	4,859	1,712	524	—	Capacité totale..... H.P.
127,061	4,115	31,682	258,286	6,180	Capacité des dynamos K.V.A.
24	30	37	66	3	Dynamos, C. A..... Nomb.
126,888	2,075	31,093	257,926	6,150	Capacité totale..... K.V.A.
9	149	63	10	2	Dynamos, C. D..... Nomb.
173	2,040	589	360	30	Capacité totale..... K.W.
Usines municipales					
122,459	67,827	63,217	19,730	—	Total force motrice primaire H.P.
17	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
105,125	—	960	10,095	—	Capacité totale..... H.P.
10	8	29	5	—	Machines à vapeur..... Nomb.
1,430	2,952	8,015	1,075	—	Capacité totale..... H.P.
3	18	13	5	—	Turbines à vapeur..... Nomb.
14,740	57,737	53,150	6,150	—	Capacité totale..... H.P.
17	68	17	10	—	Moteurs à gaz et à pétrole..... Nomb.
1,194	7,138	1,092	2,410	—	Capacité totale..... H.P.
105,593	57,557	55,028	13,487	—	Capacité des dynamos K.V.A.
41	67	49	32	—	Dynamos, C. A..... Nomb.
105,369	57,203	52,614	13,487	—	Capacité totale..... K.V.A.
7	24	11	—	—	Dynamos, C. D..... Nomb.
224	354	2,414	—	—	Capacité totale..... K.W.

CENSUS OF INDUSTRY

Table 11—Auxiliary Plant Equipment, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.	145,047	66	2,193	2,350	27,933	41,900
Per cent of total for Canada.....	100.00	.04	1.51	1.62	19.26	28.89
Steam reciprocating engines..... No.....	39	1	8	5	5	13
Total capacity..... H.P.....	13,338	60	2,113	1,525	2,400	4,790
Steam turbines..... No.....	34	—	—	—	6	6
Total capacity..... H.P.....	128,965	—	—	—	25,500	36,500
Gas and oil engines..... No.....	18	1	1	4	2	5
Total capacity..... H.P.....	2,744	6	80	825	33	610
Total Secondary Power..... K.V.A.	121,863	—	2,108	1,647	24,650	33,568
Commercial Stations						
Total Primary Power..... H.P.	114,674	66	320	1,450	27,933	36,805
Steam reciprocating engines..... No.....	21	1	2	3	5	5
Total capacity..... H.P.....	6,615	60	240	1,150	2,400	890
Steam turbines..... No.....	25	—	—	—	6	4
Total capacity..... H.P.....	107,525	—	—	—	25,500	35,800
Gas and oil engines..... No.....	8	1	1	2	2	2
Total capacity..... H.P.....	534	6	80	300	33	115
Total Secondary Power..... K.V.A.	98,125	—	407	1,050	24,650	31,453
Municipal Stations						
Total Primary Power..... H.P.	30,373	—	1,873	900	—	5,095
Steam reciprocating engines..... No.....	18	—	6	2	—	8
Total capacity..... H.P.....	6,723	—	1,873	375	—	3,900
Steam turbines..... No.....	9	—	—	—	—	2
Total capacity..... H.P.....	21,440	—	—	—	—	700
Gas and oil engines..... No.....	10	—	—	2	—	3
Total capacity..... H.P.....	2,210	—	—	525	—	495
Total Secondary Power... K.V.A.	23,738	—	1,701	597	—	2,115

Table 11—Machines des usines auxiliaires, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
26,980	—	4,725	38,740	160	Total force motrice primaire..... H.P.
18·60	—	3·26	26·71	·11	Pourcentage du total pour le Canada.
—	—	4	3	—	Machines à vapeur..... Nomb.
—	—	1,425	1,025	—	Capacité totale..... H.P.
6	—	2	13	1	Turbines à vapeur..... Nomb.
26,740	—	3,300	36,765	160	Capacité totale..... H.P.
2	—	—	3	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	950	—	Capacité totale..... H.P.
25,163	—	4,025	39,552	150	Machinerie développant la force motrice secon- daire..... K.V.A.
					Usines commerciales
12,000	—	4,725	31,215	160	Total force motrice primaire..... H.P.
—	—	4	1	—	Machines à vapeur..... Nomb.
—	—	1,425	450	—	Capacité totale..... H.P.
3	—	2	9	1	Turbines à vapeur..... Nomb.
12,000	—	3,300	30,765	160	Capacité totale..... H.P.
—	—	—	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	—	—	—	—	Capacité totale..... H.P.
11,250	—	4,025	25,140	150	Machinerie développant la force motrice secon- daire..... K.V.A.
					Usines municipales
14,980	—	—	7,525	—	Total force motrice primaire..... H.P.
—	—	—	2	—	Machines à vapeur..... Nomb.
—	—	—	575	—	Capacité totale..... H.P.
3	—	—	4	—	Turbines à vapeur..... Nomb.
14,740	—	—	6,000	—	Capacité totale..... H.P.
2	—	—	3	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	950	—	Capacité totale..... H.P.
13,913	—	—	5,412	—	Machinerie développant la force motrice secon- daire..... K.V.A.

Table 12—Main Plant Equipment, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power.....H.P.	4,173,349	3,352	56,900	36,178	1,752,775	1,548,274
Per cent of total for Canada.....	100.00	.08	1.36	.87	42.00	37.10
Water wheels and turbines.....No.	759	8	39	14	264	329
Total capacity.....H.P.	3,975,012	299	32,540	25,160	1,748,755	1,547,218
Steam reciprocating engines.....No.	134	1	20	13	7	7
Total capacity.....H.P.	33,788	350	6,390	3,911	2,500	958
Steam turbines.....No.	61	2	13	6	2	—
Total capacity.....H.P.	144,683	2,173	17,525	6,408	1,465	—
Gas and oil engines.....No.	399	4	8	8	2	4
Total capacity.....H.P.	19,866	530	445	699	55	98
Total Dynamo Capacity.....K.V.A.	3,385,227	2,922	46,148	28,632	1,466,865	1,241,563
Per cent of total for Canada.....	100.00	.09	1.36	.85	43.33	36.67
Dynamos, A. C.....No.	1,008	13	75	31	259	316
Total capacity.....K.V.A.	3,375,499	2,914	45,376	27,592	1,465,691	1,241,011
Dynamos, D. C.....No.	311	1	6	10	7	12
Total capacity.....K.W.	9,728	8	770	1,040	1,174	552
Commercial Stations						
Total Primary Power.....H.P.	2,797,055	2,822	27,560	23,503	1,727,920	490,138
Per cent of total for Canada.....	100.00	.10	.99	.84	61.78	17.52
Water wheels and turbines.....No.	557	8	17	8	244	205
Total capacity.....H.P.	2,741,278	299	5,895	13,100	1,727,440	489,684
Steam reciprocating engines.....No.	70	1	17	12	1	3
Total capacity.....H.P.	17,396	350	5,685	3,871	300	408
Steam turbines.....No.	24	2	9	6	1	—
Total capacity.....H.P.	30,731	2,173	15,950	6,408	125	—
Gas and oil engines.....No.	277	—	2	4	2	3
Total capacity.....H.P.	7,650	—	30	124	55	46
Total Dynamo Capacity.....K.V.A.	2,297,005	2,457	22,276	18,662	1,447,245	419,606
Per cent of total for Canada.....	100.00	.11	.97	.81	63.01	18.27
Dynamos, A. C.....No.	628	9	39	21	230	189
Total capacity.....K.V.A.	2,290,325	2,449	21,506	17,678	1,446,071	419,054
Dynamos, D. C.....No.	268	1	6	9	7	12
Total capacity.....K.W.	6,680	8	770	984	1,174	552
Municipal Stations						
Total Primary Power.....H.P.	1,376,294	530	29,340	12,675	21,855	1,058,136
Per cent of total for Canada.....	100.00	.04	2.13	.92	1.81	76.88
Water wheels and turbines.....No.	202	—	22	6	20	124
Total capacity.....H.P.	1,233,734	—	26,645	12,060	21,315	1,057,534
Steam reciprocating engines.....No.	64	—	3	1	6	4
Total capacity.....H.P.	16,392	—	705	40	2,200	550
Steam turbines.....No.	37	—	4	—	1	—
Total capacity.....H.P.	113,952	—	1,575	—	1,340	—
Gas and oil engines.....No.	122	4	6	4	—	1
Total capacity.....H.P.	12,216	530	415	575	—	59
Total Dynamo Capacity.....K.V.A.	1,088,222	465	23,870	9,970	19,620	821,957
Per cent of total for Canada.....	100.00	.04	2.19	.92	1.80	75.53
Dynamos, A. C.....No.	380	4	36	10	29	127
Total capacity.....K.V.A.	1,085,174	465	23,870	9,914	19,620	821,957
Dynamos, D. C.....No.	43	—	—	1	—	—
Total capacity.....K.W.	3,048	—	—	56	—	—
Hydraulic Stations						
Total Dynamo Capacity.....K.V.A.	3,221,559	332	26,969	20,725	1,463,715	1,249,999
Per cent of total for Canada.....	100.00	.01	.84	.64	45.43	38.52
Dynamos, A. C.....No.	720	6	41	12	250	310
Total capacity.....K.V.A.	3,219,791	324	26,969	20,600	1,462,573	1,240,576
Dynamos, D. C.....No.	16	1	—	—	5	7
Total capacity.....K.W.	1,768	8	—	125	1,142	423
Fuel Stations						
Total Dynamo Capacity.....K.V.A.	163,668	2,590	19,177	7,997	3,150	564
Per cent of total for Canada.....	100.00	1.58	11.72	4.83	1.93	.34
Dynamos, A. C.....No.	288	7	34	19	9	6
Total capacity.....K.V.A.	155,708	2,590	19,407	6,992	3,118	435
Dynamos, D. C.....No.	205	—	6	9	2	5
Total capacity.....K.W.	7,960	—	770	915	32	129

Tableau 12—Machines des usines principales, 1927

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
263,216	74,022	102,199	326,373	10,060	Machinerie fournis. la force motrice primaire. H.P.
6-31	1-77	2-45	7-82	0-24	Pourcentage du total pour le Canada.
30	—	16	57	2	Turbines et roues hydrauliques..... Nomb.
254,925	—	33,520	322,595	10,000	Capacité totale..... H.P.
19	17	39	10	1	Machines à vapeur..... Nomb.
4,937	4,288	9,250	1,144	60	Capacité totale..... H.P.
1	18	17	2	—	Turbines à vapeur..... Nomb.
2,100	57,737	56,625	650	—	Capacité totale..... H.P.
24	244	87	18	—	Moteurs à gaz et à pétrole..... Nomb.
1,254	11,997	2,804	1,984	—	Capacité totale..... H.P.
207,491	61,672	82,685	241,221	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
6-13	1-82	2-44	7-13	18	Pourcentage du total pour le Canada.
57	97	80	78	2	Dynamos, C. A..... Nomb.
207,094	59,278	79,682	240,861	6,000	Capacité totale..... K.V.A.
16	173	74	10	2	Dynamos, C. D..... Nomb.
397	2,394	3,003	360	30	Capacité totale..... K.W.
Usines commerciales					
155,707	6,195	38,982	314,168	10,060	Machinerie fournis. la force motrice primaire. H.P.
5-57	22	1-39	11-23	36	Pourcentage du total pour le Canada.
13	—	14	46	2	Turbines et roues hydrauliques..... Nomb.
149,800	—	32,560	312,500	10,000	Capacité totale..... H.P.
9	9	10	7	1	Machines à vapeur..... Nomb.
3,507	1,336	1,235	644	60	Capacité totale..... H.P.
1	—	4	1	—	Turbines à vapeur..... Nomb.
2,100	—	3,475	500	—	Capacité totale..... H.P.
9	176	70	11	—	Moteurs à gaz et à pétrole..... Nomb.
300	4,859	1,712	524	—	Capacité totale..... H.P.
115,811	4,115	27,657	233,146	6,030	Capacité totale de l'ensemble des dynamos... K.V.A.
5-04	18	1-20	10-15	26	Pourcentage du total pour le Canada.
21	30	31	56	2	Dynamos, C.A..... Nomb.
115,638	2,075	27,058	232,786	6,000	Capacité totale..... K.V.A.
9	149	63	10	2	Dynamos, C.D..... Nomb.
173	2,040	589	360	30	Capacité totale..... K.W.
Usines municipales					
107,509	67,827	63,217	12,295	—	Machinerie fournis. la force motrice primaire. H.P.
7-81	4-93	4-59	89	—	Pourcentage du total pour le Canada.
17	—	2	11	—	Turbines et roues hydrauliques..... Nomb.
105,125	—	960	10,095	—	Capacité totale..... H.P.
10	8	29	3	—	Machines à vapeur..... Nomb.
1,430	2,952	8,015	500	—	Capacité totale..... H.P.
—	18	13	1	—	Turbines à vapeur..... Nomb.
—	57,737	53,150	150	—	Capacité totale..... H.P.
15	68	17	7	—	Moteurs à gaz et à pétrole..... Nomb.
954	7,138	1,092	1,460	—	Capacité totale..... H.P.
91,689	57,557	55,028	8,075	—	Capacité totale de l'ensemble des dynamos... K.V.A.
8-43	5-29	5-06	74	—	Pourcentage du total pour le Canada.
36	67	49	22	—	Dynamos, C.A..... Nomb.
91,456	57,203	52,614	8,075	—	Capacité totale..... K.V.A.
7	24	11	—	—	Dynamos, C.D..... Nomb.
224	354	2,414	—	—	Capacité totale..... K.W.
Usines hydrauliques					
201,412	—	23,200	238,207	6,000	Capacité totale de l'ensemble des dynamos... K.V.A.
6-25	—	7-72	7-40	19	Pourcentage du total pour le Canada.
30	—	12	57	2	Dynamos, C.A..... Nomb.
201,412	—	23,200	238,137	6,000	Capacité totale..... K.V.A.
—	—	—	2	—	Dynamos, C.D..... Nomb.
—	—	—	70	—	Capacité totale..... K.W.
Usines à combustible					
6,079	61,672	59,485	3,014	30	Capacité totale de l'ensemble des dynamos... K.V.A.
3-72	37-68	36-34	1-84	02	Pourcentage du total pour le Canada.
27	97	68	21	—	Dynamos, C.A..... Nomb.
5,682	59,278	56,482	2,724	—	Capacité totale..... K.V.A.
16	173	74	8	2	Dynamos, C.D..... Nomb.
397	2,394	3,003	290	30	Capacité totale..... K.W.

Table 13—Main Plant Equipment, Classified, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick
Primary Power—Force motrice primaire.....	4,173,349	3,352	56,900	36,178
Water wheels and turbines—Roues hydrauliques et turbines—				
Total No.....	759	8	39	14
Total H.P.....	3,975,012	299	32,540	25,160
Under—Au-dessous de 500 H.P.—				
No.....	220	8	25	6
Total H.P.....	40,272	299	4,805	1,660
500— 2,000 H.P.....	209	—	10	1
Total H.P.....	237,145	—	14,545	1,000
2,000— 5,000 H.P.....	109	—	4	6
Total H.P.....	322,545	—	13,190	17,500
5,000—10,000 H.P.....	84	—	—	1
Total H.P.....	546,250	—	—	5,000
10,000—15,000 H.P.....	66	—	—	—
Total H.P.....	760,600	—	—	—
15,000—25,000 H.P.....	39	—	—	—
Total H.P.....	713,500	—	—	—
25,000 up.....	32	—	—	—
Total H.P.....	1,354,700	—	—	—
Steam reciprocating engines—Machines à vapeur—				
Total No.....	134	1	20	13
Total H.P.....	33,788	350	6,390	3,911
Under—Au-dessous de 500 H.P.....				
No.....	119	1	17	10
Total H.P.....	19,728	350	3,990	1,011
500 up.....	15	—	3	3
Total H.P.....	14,060	—	2,400	2,900
Steam turbines—Turbines à vapeur—				
Total No.....	61	2	13	6
Total H.P.....	144,683	2,173	17,525	6,408
Under—Au-dessous de 500 H.P.....				
No.....	10	—	4	1
Total H.P.....	2,500	—	775	250
500— 2,000 H.P.....	22	2	5	4
Total H.P.....	20,932	2,173	4,900	3,158
2,000— 5,000 H.P.....	21	—	4	1
Total H.P.....	59,110	—	11,850	3,000
5,000—10,000 H.P.....	8	—	—	—
Total H.P.....	62,141	—	—	—
Gas and Oil engines—Moteurs à gaz et pétrole—				
Total No.....	399	4	8	8
Total H.P.....	19,866	530	445	699
Secondary Power—Force motrice secondaire.				
Dynamos A.C. and D.C.—C.A. et C.D.—				
Total No.....	1,319	14	81	41
Total K.V.A.....	3,385,227	2,922	46,146	28,632
Dynamos, A.C.—C.A.....				
Total No.....	1,008	13	75	31
Total K.V.A.....	3,375,499	2,914	45,376	27,592
Under—Au-dessous de 50 K.V.A.....				
No.....	77	4	12	1
Total K.V.A.....	2,352	133	467	30
50— 200 K.V.A.....	227	6	21	13
Total K.V.A.....	24,561	656	2,527	1,544
200— 500 K.V.A.....	130	1	17	4
Total K.V.A.....	39,843	250	4,792	1,593
500— 1,000 K.V.A.....	144	1	8	4
Total K.V.A.....	104,953	625	5,150	2,450
1,000— 5,000 K.V.A.....	237	1	17	9
Total K.V.A.....	531,683	1,250	32,440	21,975
5,000—10,000 K.V.A.....	89	—	—	—
Total K.V.A.....	619,692	—	—	—
10,000—15,000 K.V.A.....	52	—	—	—
Total K.V.A.....	554,165	—	—	—
15,000—25,000 K.V.A.....	23	—	—	—
Total K.V.A.....	438,250	—	—	—
25,000 up.....	29	—	—	—
Total K.V.A.....	1,060,000	—	—	—
Dynamos, D.C.—C.D.....				
No.....	311	1	6	10
Total K.W.....	9,728	8	770	1,040
Under—Au-dessous de 50 K.V.A.....				
No.....	279	1	2	6
Total K.W.....	3,280	8	20	140
50—200.....	21	—	2	3
Total K.W.....	1,698	—	200	250
200—500.....	6	—	2	—
Total K.W.....	1,750	—	550	—
500 up.....	5	—	—	1
Total K.W.....	3,000	—	—	650

Tableau 13—Machines des usines principales classifiées, 1927

Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	Commercial Commerciales	Municipal Municipales
1,752,775	1,548,274	263,316	74,022	102,199	326,373	10,060	-	-
264	329	30	-	16	57	2	557	202
1,748,755	1,547,218	254,925	-	33,520	322,595	10,000	2,741,278	1,233,734
72	83	1	-	10	15	-	174	46
13,445	15,443	125	-	1,920	2,575	-	29,998	10,274
70	116	-	-	-	12	-	134	75
79,040	127,640	-	-	-	14,920	-	147,635	89,510
32	54	4	-	2	7	-	90	19
93,020	156,435	12,800	-	8,000	21,600	-	270,095	52,450
29	19	21	-	4	8	2	63	21
200,150	116,500	130,000	-	23,600	61,000	10,000	414,450	131,800
26	33	-	-	-	7	-	49	17
281,900	393,700	-	-	-	85,000	-	548,400	212,200
16	15	-	-	-	8	-	24	15
340,500	235,500	-	-	-	137,500	-	478,000	235,500
19	9	4	-	-	-	-	23	9
740,700	502,000	112,000	-	-	-	-	852,700	502,000
7	7	19	17	39	10	1	70	64
2,500	958	4,937	4,288	9,250	1,144	60	17,396	16,392
6	7	18	15	34	10	1	63	56
1,800	958	2,687	2,438	5,290	1,144	60	9,846	9,882
1	-	1	2	5	-	-	7	8
700	-	2,250	1,850	3,960	-	-	7,550	6,510
2	-	1	18	17	2	-	24	37
1,465	-	2,100	57,737	56,625	650	-	30,731	113,952
1	-	-	1	2	1	-	5	5
125	-	-	400	800	150	-	1,205	1,295
1	-	-	6	3	1	-	12	10
1,340	-	-	6,186	2,675	500	-	10,576	10,356
-	-	1	7	8	-	-	7	14
-	-	2,100	21,710	20,450	-	-	18,950	40,160
-	-	-	4	4	-	-	-	8
-	-	-	29,441	32,700	-	-	-	62,141
2	4	24	244	87	18	-	277	122
55	98	1,254	11,997	2,804	1,984	-	7,650	12,216
266	328	73	270	154	88	4	896	423
1,466,865	1,241,563	207,491	61,672	82,685	241,221	6,030	2,297,005	1,088,222
259	316	57	97	80	78	2	628	380
1,465,691	1,241,011	207,094	59,278	79,682	240,861	6,000	2,290,325	1,085,174
4	7	7	29	10	3	-	37	40
120	247	178	844	268	65	-	1,086	1,266
35	35	14	41	35	27	-	122	105
3,969	3,974	1,266	4,142	3,395	3,088	-	12,747	11,814
33	42	5	7	13	8	-	73	57
10,102	12,705	1,487	2,138	4,056	2,720	-	21,644	18,199
45	68	-	6	4	96	-	96	48
33,980	49,968	-	3,529	2,713	6,538	-	69,787	35,166
62	95	16	10	14	11	2	187	70
139,870	195,485	49,413	23,625	39,250	22,375	6,000	380,316	151,367
22	36	11	4	3	13	-	53	36
141,900	276,592	70,750	25,000	17,500	87,950	-	355,430	264,262
23	23	-	-	1	5	-	38	14
231,000	245,040	-	-	12,500	65,625	-	408,065	146,100
15	1	4	-	-	3	-	22	1
286,750	15,000	84,000	-	-	52,500	-	423,250	15,000
20	9	-	-	-	-	-	20	9
618,000	442,000	-	-	-	-	-	618,000	442,000
7	12	16	173	74	10	2	268	43
1,174	552	397	2,394	3,003	360	30	6,680	3,048
4	7	14	167	67	9	2	245	34
74	129	272	1,919	528	160	30	2,762	518
-	5	2	6	3	-	-	16	5
-	423	125	475	225	-	-	1,418	280
2	-	-	-	1	1	-	5	1
600	-	-	-	400	200	-	1,350	400
1	-	-	-	3	-	-	2	3
500	-	-	-	1,850	-	-	1,150	1,850

Table 14—Electric Energy Generated, 1927

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
ALL STATIONS						
Total K.W. Hours Generated (thousands)	14,549,099	2,017	83,695	53,095	6,523,605	5,792,820
Per cent of total for Canada.....	100.00	-01	-58	-37	44.84	39.82
K.W. hours generated by non-generating stations.....(thousands)	124	—	16	3	—	—
K.W. hours generated by generating sta- tions.....(thousands)	14,548,975	2,017	83,679	53,092	6,523,605	5,530,610
K.V.A. capacity of generating stations.....	3,497,602	2,922	46,553	28,632	1,488,390	1,273,016
Ratio of output to maximum capacity (p.c.)..	49.5	9.4	20.7	22.1	53.2	50.1
Average K.W. hours per K.V.A.....	4,160	690	1,797	1,854	4,383	4,344
GENERATING STATIONS						
Commercial Stations						
Total						
K.W. hours generated.....(thousands)	9,944,314	1,591	27,969	25,712	6,476,944	1,849,386
K.V.A. capacity.....(thousands)	2,390,680	2,457	22,683	18,662	1,468,770	451,059
Ratio of output to maximum capacity (p.c.)	50.1	9.1	14.4	16.8	53.5	48.1
Average K.W. hours per K.V.A.....	4,160	648	1,233	1,378	4,410	4,100
Hydraulic						
K.W. hours generated.....(thousands)	9,896,635	106	8,391	14,055	6,476,712	1,849,227
K.V.A. capacity.....	2,348,578	332	5,676	11,275	1,468,438	450,805
Ratio of output to maximum capacity (p.c.)	50.7	3.6	16.9	14.2	53.5	48.1
Average K.W. hours per K.V.A.....	4,201	319	1,478	1,247	4,411	4,102
Fuel						
K.W. hours generated.....(thousands)	47,679	1,485	19,578	11,657	232	159
K.V.A. capacity.....	42,102	2,125	17,007	7,387	332	254
Ratio of output to maximum capacity (p.c.)	14.0	10.2	13.5	21.3	8.3	7.1
Average K.W. hours per K.V.A.....	1,132	699	1,151	1,578	699	626
Municipal Stations						
Total						
K.W. hours generated.....(thousands)	4,604,661	426	55,710	27,380	46,661	3,943,434
K.V.A. capacity.....	1,106,922	465	23,870	9,970	19,620	821,957
Ratio of output to maximum capacity (p.c.)	48.3	10.5	26.6	31.3	27.1	54.8
Average K.W. hours per K.V.A.....	4,160	916	2,334	2,746	2,378	4,798
Hydraulic						
K.W. hours generated.....(thousands)	4,449,815	—	53,217	26,630	45,900	3,943,072
K.V.A. capacity.....	985,356	—	21,700	9,456	16,802	821,647
Ratio of output to maximum capacity (p.c.)	51.6	—	28.0	32.2	31.2	54.8
Average K.W. hours per K.V.A.....	4,516	—	2,452	2,818	2,732	4,798
Fuel						
K.W. hours generated.....(thousands)	154,846	426	2,493	750	761	362
K.V.A. capacity.....	121,566	465	2,170	520	2,818	310
Ratio of output to maximum capacity (p.c.)	16.9	10.5	13.1	16.5	30.8	13.3
Average K.W. hours per K.V.A.....	1,274	916	1,149	144	270	1,168
Total Hydraulic						
K.W. hours generated.....(thousands)	14,346,450	106	61,608	40,685	6,522,612	5,792,299
K.V.A. capacity.....	3,333,934	332	27,376	20,725	1,485,240	1,272,452
Ratio of output to maximum capacity (p.c.)	50.9	3.6	25.7	22.4	53.3	52.5
Average K.W. hours per K.V.A.....	4,303	319	2,250	1,963	4,392	4,555
Total Fuel						
K.W. hours generated.....(thousands)	202,525	1,911	22,071	12,407	993	531
K.V.A. capacity.....	163,668	2,590	19,177	7,907	3,150	564
Ratio of output to maximum capacity (p.c.)..	16.2	10.3	13.5	20.9	36.0	10.6
Average K.W. hours per K.V.A.....	1,237	738	1,151	1,569	315	924

Allowances were made for units placed in operation during the year when computing ratios of output to maximum capacity

Tableau 14—Énergie électrique produite, 1927

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
TOUTES USINES					
875,897	85,603	156,066		8,406	Total K.W. heures produits (milliers).
6-02	-58	1-07	967,895	-06	Pourcentage du total pour le Canada.
-	-	105	6-65	-	K.W. heures produits par les usines non-génératrices (milliers).
875,897	85,603	155,961	967,895	8,406	K.W. heures produits par les usines génératrices (milliers).
232,654	61,672	86,585	271,148	6,030	Capacité des usines génératrices en K.V.A.
46-5	17-6	24-1	41-3	15-9	Proportion de la production à la capacité (p.c.).
3,765	1,388	1,801	3,570	1,394	Moyenne des K.W. heures par K.V.A.
USINES GÉNÉRATRICES					
Usines Commerciales					
Total					
515,239	3,373	91,237	944,457	8,406	K.W. heures produits (milliers).
127,061	4,115	31,557	258,286	6,030	Capacité en K.V.A.
53-7	9-4	34-2	42-3	15-9	Proportion de la production à la capacité (p.c.)
4,055	820	2,891	3,657	1,394	Moyenne des heures K.W. par K.V.A.
Hydrauliques					
511,103	-	85,118	943,553	8,370	K.W. heures produits (milliers).
122,850	-	26,250	256,952	6,000	Capacité en K.V.A.
55-4	-	37-0	42-5	15-9	Proportion de la production à la capacité (p.c.)
4,160	-	3,243	3,672	1,395	Moyenne des K.W. heures par K.V.A.
A combustible					
4,136	3,373	6,119	904	36	K.W. heures produits (milliers).
4,211	4,115	5,307	1,334	30	Capacité en K.V.A.
11-2	9-4	16-7	7-7	13-7	Proportion de la production à la capacité (p.c.)
982	820	1,153	678	120	Moyenne des K.W. heures par K.V.A.
Usines Municipales					
Total					
360,658	82,230	64,724	23,438	-	K.W. heures produits (milliers).
105,593	57,557	55,028	12,862	-	Capacité en K.V.A.
39-0	18-2	16-9	20-8	-	Proportion de la production à la capacité (p.c.).
3,416	1,429	1,176	1,822	-	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
358,663	-	1,313	21,020	-	K.W. heures produits (milliers).
103,725	-	850	11,182	-	Capacité en K.V.A.
39-5	-	17-6	21-5	-	Proportion de la production à la capacité (p.c.)
3,458	-	1,545	1,880	-	Moyenne des K.W. heures par K.V.A.
A combustible					
1,995	82,230	63,411	2,418	-	K.W. heures produits (milliers).
1,868	57,557	54,178	1,680	-	Capacité en K.V.A.
12-2	18-2	16-9	16-4	-	Proportion de la production à la capacité (p.c.)
1,068	1,429	1,170	1,439	-	Moyenne des K.W. heures par K.V.A.
Total, Hydrauliques					
869,766	-	86,431	964,573	8,370	K.W. heures produits (milliers).
226,575	-	27,100	268,134	6,000	Capacité en K.V.A.
47-5	-	36-4	41-6	15-9	Proportion de la production à la capacité (p.c.)
3,839	-	3,189	3,597	1,395	Moyenne des K.W. heures par K.V.A.
Total, à combustible					
6,131	85,603	69,530	3,322	36	K.W. heures produits (milliers).
6,079	61,672	59,485	3,014	30	Capacité en K.V.A.
11-5	17-6	16-9	13-7	13-7	Proportion de la production à la capacité (p.c.).
1,009	1,388	1,169	1,102	120	Moyenne des K.W. heures par K.V.A.

Il faut allouer une certaine marge pour les générateurs mis en opération au cours de l'année, dans le calcul de la capacité maxima.

CENSUS OF INDUSTRY

Tableau 15—Fuel, 1927

Province	Bituminous Coal—Charbon bitumineux				Anthracite Coal — Anthracite	
	Canadian — Canadien		Imported — Importé		Quantity — Quantité	Value — Valeur
	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur		
	Ton — Tonnes	\$	Ton — Tonnes	\$	Ton — Tonnes	\$
Canada	191,547	853,031	40,618	237,504	1,143	18,672
Prince Edward Island.....	—	—	3,618	27,352	—	—
Nova Scotia.....	45,461	225,110	—	—	—	—
New Brunswick.....	17,482	88,136	3,450	24,650	208	2,700
Quebec.....	1,886	14,519	2,452	12,039	—	—
Ontario.....	1,450	9,125	31,098	173,463	—	—
Manitoba.....	6,434	43,318	—	—	2	22
Saskatchewan.....	30,033	212,961	—	—	933	15,950
Alberta.....	68,166	143,824	—	—	—	—
British Columbia.....	20,635	116,038	—	—	—	—
Yukon.....	—	—	—	—	—	—

Province	Kerosene — Kérosène	
	Quantity — Quantité	Value — Valeur
	Gal. — Gal.	\$
Canada	178,802	44,675
Prince Edward Island.....	—	—
Nova Scotia.....	—	—
New Brunswick.....	—	—
Quebec.....	160	40
Ontario.....	1,691	425
Manitoba.....	5,942	1,634
Saskatchewan.....	114,424	28,312
Alberta.....	42,597	12,063
British Columbia.....	13,988	2,201
Yukon.....	—	—

Tableau 15—Combustible, 1927

Lignite Coal—Lignite				Coke Coke		Gasoline Gazoline	
Canadian Canadien		Imported Importé					
Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur
Ton Tonnes	\$	Ton Tonnes	\$	Ton Tonnes	\$	Gal. Gal.	\$
229,610	690,397	6,593	17,965	225	1,587	211,977	56,439
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—
—	—	—	—	—	—	730	168
—	—	—	—	—	—	1,895	401
30,822	100,050	—	—	—	—	26,477	6,350
87,266	342,096	6,593	17,965	225	1,587	141,690	40,135
111,522	248,251	—	—	—	—	39,273	8,937
—	—	—	—	—	—	1,912	448
—	—	—	—	—	—	—	—

Fuel Oil Huile combustible		Wood Bois		Natural Gas Gaz naturel		Other Fuel Autre combustible	Total
Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur	Value Valeur	Value Valeur
Gal. Gal.	\$	Cord Corde	\$	1,000 cu. ft. 1,000 pd. cu.	\$	1,000 cu ft. \$	\$
1,767,634	245,357	18,087	98,567	78,967	37,838	785	2,302,817
53,467	8,698	70	350	—	—	—	36,400
64,815	9,854	468	1,828	—	—	—	236,792
107,218	14,898	20	80	24	10	—	130,474
10,583	1,583	1,500	6,000	—	—	677	35,026
10,483	1,188	2,077	9,430	—	—	—	194,032
132,124	20,511	3,931	23,927	—	—	—	195,812
865,276	121,175	7,958	47,297	—	—	108	827,586
157,978	26,415	810	2,024	789,143	37,828	—	479,342
365,690	41,035	627	1,997	—	—	—	161,719
—	—	626	5,634	—	—	—	5,634

APPENDIX A

MONTHLY OUTPUT OF CENTRAL ELECTRIC STATIONS

The data in the following tables are supplied monthly by the large stations only, but as these stations produce over 99 per cent of the output of all central electric stations in Canada, the fluctuations and trends may be considered as representing the industry.

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA

PRODUCTION DES USINES ÉLECTRIQUES CENTRALES EN CANADA

(A) MONTHLY OUTPUT—PRODUCTION MENSUELLE

(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

Month	Totals for Canada Totaux pour le Canada			Generated by Water-Power Générés par pouvoir hydraulique					Generated by Fuel Générés par combustible		Total Export— Total, exportations	Mois
	Water Eau	Fuel Combustible	Total	Maritime Provinces Provinces maritimes	Quebec Québec	Ontario	Prairie Provinces Provinces des prairies	British Columbia Colombie Britannique	Prairie Provinces Provinces des prairies	Other Provinces Autres provinces		
1925												1925
Jan.....	775,788	14,441	790,229	7,490	265,831	399,029	49,406	54,032	11,242	3,199	91,300	Janv.
Feb.....	712,806	12,216	725,022	7,470	266,504	349,893	41,601	47,338	9,655	2,561	79,263	Fév.
March.....	799,739	12,201	811,940	8,104	310,369	381,286	42,930	57,050	9,947	2,254	100,163	Mars
April.....	794,438	11,524	805,962	9,682	319,281	368,154	41,685	55,636	9,181	2,343	106,335	Avril
May.....	801,394	10,259	811,653	9,914	318,598	372,403	44,602	55,877	8,355	1,904	106,354	Mai
June.....	758,614	10,392	769,006	10,201	296,712	356,903	41,227	53,571	8,206	2,186	107,192	Juin
July.....	785,554	11,115	796,669	10,925	312,565	360,005	44,754	57,305	8,644	2,471	109,630	Juillet
Aug.....	764,689	11,510	776,199	9,396	295,431	360,901	41,907	57,053	8,530	2,980	111,181	Août.
Sept.....	802,433	13,221	815,654	8,801	305,203	384,636	47,445	56,348	9,254	3,967	116,542	Sept.
Oct.....	895,631	15,823	911,454	10,580	333,286	432,146	57,924	61,696	10,531	5,272	126,143	Oct.
Nov.....	879,539	21,683	901,222	12,163	324,196	422,259	59,434	61,487	11,028	10,655	114,443	Nov.
Dec.....	915,052	16,041	931,093	12,696	325,720	449,884	62,654	64,098	12,491	3,550	117,002	Déc.
Total.....	9,685,677	160,406	9,846,083	117,422	3,673,696	4,637,499	575,569	681,491	117,061	43,342	1,855,542	Total.
1926												1926
Jan.....	936,035	15,416	951,451	6,955	352,194	441,911	61,693	73,282	12,130	3,286	113,026	Janv.
Feb.....	856,485	14,045	870,530	7,398	322,443	402,113	55,525	69,006	10,234	3,811	98,086	Fév.
March.....	939,537	12,739	952,276	9,333	358,318	435,397	60,318	76,171	10,576	2,163	110,911	Mars
April.....	891,041	11,004	902,045	6,949	348,958	415,790	53,630	65,714	9,306	1,698	115,696	Avril
May.....	949,946	10,993	960,939	8,048	399,832	426,439	49,558	66,069	9,270	1,723	119,398	Mai
June.....	959,913	11,862	971,775	6,542	407,028	430,835	47,627	67,881	9,076	2,786	127,351	Juin
July.....	953,010	13,458	966,468	6,969	411,974	419,229	44,655	70,183	9,580	3,878	132,225	Juillet
Aug.....	969,761	12,705	982,466	6,150	406,278	435,584	46,017	75,732	9,618	3,087	142,680	Août.
Sept.....	993,086	15,383	1,008,469	4,504	404,016	456,332	55,183	73,051	10,228	5,155	146,673	Sept.
Oct.....	1,085,787	15,186	1,100,973	5,289	452,722	486,608	64,698	76,470	11,748	3,438	144,160	Oct.
Nov.....	1,097,108	15,434	1,112,542	9,580	473,552	467,458	70,246	76,272	13,100	2,334	128,041	Nov.
Dec.....	1,127,746	18,538	1,146,284	8,910	470,317	493,418	74,095	81,006	14,823	3,715	127,568	Déc.
Total.....	11,759,455	166,783	11,926,238	86,627	1,807,532	3,111,111	693,245	870,837	129,689	37,674	1,596,306	Total.
1927												1927
Jan.....	1,114,673	17,313	1,131,986	9,335	458,883	490,179	77,619	78,657	13,643	3,670	130,894	Janv.
Feb.....	1,050,777	15,793	1,066,570	9,038	453,160	438,087	77,421	73,071	11,826	3,967	121,829	Fév.
March.....	1,134,358	16,223	1,150,581	11,022	496,012	473,423	81,303	72,598	11,800	4,423	133,702	Mars
April.....	1,095,261	15,075	1,110,336	9,650	489,349	447,277	76,248	72,737	11,024	4,051	129,709	Avril
May.....	1,102,464	13,768	1,116,232	7,038	503,566	443,576	73,978	74,305	10,482	3,286	124,749	Mai
June.....	1,096,897	13,201	1,110,098	5,599	509,764	443,664	64,953	72,917	10,249	2,952	139,439	Juin
July.....	1,092,837	14,572	1,107,409	4,806	517,373	430,298	64,808	75,552	10,549	4,023	138,085	Juillet
Aug.....	1,217,276	15,558	1,232,834	8,077	561,292	492,979	71,902	83,026	11,007	4,551	157,197	Août.
Sept.....	1,184,954	15,850	1,200,804	6,396	551,461	471,868	75,009	80,220	11,676	4,174	154,047	Sept.
Oct.....	1,297,158	19,203	1,316,361	8,937	616,227	498,331	87,717	85,946	12,814	6,889	142,991	Oct.
Nov.....	1,295,667	21,969	1,317,636	10,167	606,904	492,833	99,148	86,615	14,516	7,453	129,414	Nov.
Dec.....	1,347,691	22,658	1,370,349	10,686	639,749	504,005	100,776	91,875	16,609	6,049	130,558	Déc.
Total.....	14,030,613	201,183	14,231,796	100,751	6,133,74	5,627,122	959,882	917,519	146,195	51,988	1,932,514	Total.
1928												1928
Jan.....	1,306,298	20,245	1,326,543	10,908	613,339	492,035	96,676	93,340	15,315	4,930	124,023	Janv.
Feb.....	1,264,178	17,852	1,282,030	10,342	604,439	469,216	92,359	87,832	13,013	4,230	122,910	Fév.
March.....	1,324,612	17,939	1,342,551	10,785	621,465	499,059	100,638	92,665	14,113	3,826	135,961	Mars
April.....	1,254,791	17,147	1,271,938	9,817	601,969	464,846	92,658	85,501	13,750	3,397	122,154	Avril
May.....	1,264,692	16,019	1,280,711	9,643	600,568	487,733	85,347	81,401	12,257	3,762	134,830	Mai
June.....	1,228,235	14,089	1,242,324	9,452	596,804	462,239	83,252	76,488	11,251	2,838	127,409	Juin
July.....	1,233,410	14,955	1,248,365	9,266	611,556	448,102	82,121	79,365	11,699	3,256	130,124	Juillet
Aug.....	1,297,731	15,825	1,313,556	8,212	637,862	478,979	86,367	86,311	12,631	3,194	145,678	Août.
Sept.....	1,261,501	18,788	1,280,289	6,455	608,132	472,256	90,594	84,004	12,768	6,020	154,627	Sept.
Oct.....	1,439,477	20,971	1,460,448	8,571	724,509	503,082	108,044	95,321	15,922	5,049	154,627	Oct.
Nov.....	1,116,958	24,562	1,141,520	10,834	737,298	498,711	75,414	94,701	19,207	3,535	137,810	Nov.
Dec.....	1,413,388	27,541	1,440,929	12,401	714,213	505,131	70,335	102,308	21,378	6,163	122,731	Déc.
Total.....	15,705,271	225,933	15,931,204	116,686	7,675,154	5,781,329	1,072,865	1,059,287	173,904	52,629	1,587,761	Total.

CENTRAL ELECTRIC STATIONS

43

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA—Concluded
 PRODUCTION DES USINES ELECTRIQUES CENTRALES EN CANADA—Fin

(B) AVERAGE DAILY OUTPUT—MOYENNE DE PRODUCTION QUOTIDIENNE

(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

Month	Totals for Canada — Totaux pour le Canada			Generated by Water-Power — Générés par pouvoir hydraulique					Generated by Fuel — Générés par combustible		Total Exports — Total, exportations	Mois
	Water — Eau	Fuel — Combustible	Total	Maritime Provinces — Provinces maritimes	Quebec — Québec	Ontario	Prairie Provinces — Provinces des prairies	British Columbia — Colombie Britannique	Prairie Provinces — Provinces des prairies	Other Provinces — Autres provinces		
1925												1925
Jan.....	25,025	466	25,491	242	8,575	12,871	1,594	1,743	363	103	2,945	Janv.
Feb.....	25,457	436	25,893	267	9,518	12,495	1,486	1,691	345	91	2,831	Fév.
March.....	25,798	394	26,192	261	10,012	12,300	1,385	1,840	321	73	3,231	Mars.
April.....	26,481	384	26,865	323	10,643	12,272	1,389	1,854	306	78	3,544	Avril.
May.....	25,551	331	26,182	320	10,277	12,013	1,439	1,802	270	61	3,431	Mai.
June.....	25,287	346	25,633	340	9,890	11,897	1,374	1,786	273	73	3,573	Jun.
July.....	25,340	359	25,699	352	10,083	11,612	1,444	1,849	279	80	3,536	Juillet.
Aug.....	24,667	371	25,038	303	9,530	11,642	1,352	1,840	275	96	3,586	Août.
Sept.....	26,744	440	27,184	293	10,173	12,822	1,532	1,878	308	132	3,885	Sept.
Oct.....	28,891	510	29,401	341	10,751	13,940	1,869	1,990	340	170	4,069	Oct.
Nov.....	29,318	723	30,041	405	10,806	14,076	1,981	2,050	368	355	3,815	Nov.
Dec.....	29,518	517	30,035	410	10,507	14,512	2,021	2,068	402	115	3,774	Déc.
Average...	26,536	439	26,975	322	10,065	12,705	1,577	1,867	320	119	3,521	Moyenne.
1926												1926
Jan.....	30,195	497	30,692	225	11,361	14,255	1,990	2,364	391	106	3,646	Janv.
Feb.....	30,589	502	31,091	264	11,516	14,361	1,983	2,464	365	137	3,503	Fév.
March.....	30,308	411	30,719	301	11,558	14,046	1,946	2,457	341	70	3,578	Mars.
April.....	29,701	367	30,068	231	11,632	13,860	1,788	2,190	310	57	3,857	Avril.
May.....	30,643	355	30,998	260	12,898	13,756	1,599	2,130	299	56	3,852	Mai.
June.....	31,997	395	32,392	218	13,567	14,361	1,588	2,263	303	92	4,245	Jun.
July.....	30,742	434	31,176	225	13,289	13,523	1,441	2,264	309	125	4,265	Juillet.
Aug.....	31,282	410	31,692	199	13,105	14,051	1,484	2,443	310	100	4,608	Août.
Sept.....	33,103	512	33,615	150	13,467	15,212	1,839	2,435	341	171	4,889	Sept.
Oct.....	35,025	490	35,515	170	14,604	15,197	2,037	2,467	379	111	4,650	Oct.
Nov.....	36,570	515	37,085	319	15,785	15,582	2,342	2,542	437	78	4,268	Nov.
Dec.....	36,379	598	36,976	287	15,172	15,917	2,390	2,613	478	120	4,115	Déc.
Average...	32,218	457	32,675	237	13,172	14,551	1,872	2,386	355	102	4,126	Moyenne.
1927												1927
Jan.....	35,957	558	36,515	301	14,803	15,812	2,504	2,537	440	118	4,222	Janv.
Feb.....	37,527	564	38,091	323	16,184	15,645	2,765	2,610	422	142	4,351	Fév.
March.....	36,592	523	37,115	356	16,000	15,271	2,623	2,342	381	142	4,313	Mars.
April.....	36,509	502	36,011	322	16,311	14,910	2,542	2,424	367	135	4,327	Avril.
May.....	36,563	444	36,007	227	16,244	14,309	2,386	2,397	338	106	4,024	Mai.
June.....	36,563	440	37,003	186	16,992	14,788	2,165	2,432	342	98	4,648	Jun.
July.....	35,252	470	35,722	155	16,689	13,880	2,091	2,437	340	130	4,454	Juillet.
Aug.....	39,266	502	39,768	261	18,106	15,902	2,319	2,678	355	147	5,071	Août.
Sept.....	39,498	528	40,026	213	18,382	15,729	2,500	2,674	389	139	5,131	Sept.
Oct.....	41,844	619	42,463	288	19,878	16,076	2,829	2,773	413	206	4,613	Oct.
Nov.....	43,189	732	43,921	339	20,230	16,428	3,305	2,887	484	248	4,314	Nov.
Dec.....	43,473	731	44,204	345	20,637	16,277	3,250	2,964	536	195	4,211	Déc.
Average...	38,438	551	38,989	276	17,544	15,417	2,605	2,596	400	151	4,473	Moyenne.
1928												1928
Jan.....	42,138	653	42,791	352	19,785	15,872	3,118	3,011	494	159	4,001	Janv.
Feb.....	43,592	615	44,207	357	20,843	16,179	3,185	3,028	470	146	4,238	Fév.
March.....	42,729	579	43,308	348	20,047	16,099	3,246	2,989	455	124	4,386	Mars.
April.....	41,826	571	42,397	327	20,066	15,494	3,089	2,850	458	113	4,072	Avril.
May.....	40,796	517	41,313	311	19,373	15,733	2,753	2,626	396	120	4,349	Mai.
June.....	40,941	470	41,411	315	19,893	15,409	2,775	2,549	375	95	4,247	Jun.
July.....	39,787	482	40,269	299	19,824	14,455	2,649	2,560	377	105	4,198	Juillet.
Aug.....	41,862	510	42,372	265	20,576	15,450	2,786	2,785	407	200	4,317	Août.
Sept.....	42,050	626	42,676	215	20,271	15,742	3,020	2,802	426	162	4,988	Sept.
Oct.....	46,435	676	47,111	276	23,371	16,228	3,485	3,075	514	162	4,988	Oct.
Nov.....	47,232	819	48,051	361	24,576	16,624	2,514	3,157	640	179	4,594	Nov.
Dec.....	45,593	888	46,481	400	23,040	16,294	2,559	3,800	689	199	3,959	Déc.
Average...	42,910	617	43,527	319	20,970	15,796	2,931	2,894	475	142	4,338	Moyenne.

CANADA
MINISTÈRE DU COMMERCE
BUREAU FÉDÉRAL DE LA STATISTIQUE

RECENSEMENT INDUSTRIEL, 1927

USINES ÉLECTRIQUES CENTRALES
AU CANADA

Préparé en collaboration avec le Service des forces Hydrauliques, du Drainage
et de l'Irrigation du ministère de l'Intérieur, et avec le concours de la
Commission Hydroélectrique d'Ontario, la Commission des
Eaux Courantes de Québec, la Commission de l'Énergie
Électrique du Nouveau-Brunswick, la Commission
de la Force Motrice de la Nouvelle-Écosse et
la Commission de la Force Motrice
du Manitoba)

Publié par ordre de l'Hon. James Malcolm, M.P.,
Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1929

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PRÉFACE

Les données sur la génération et la distribution de l'électricité au Canada sont colligées et compilées par le Bureau, en vertu de la Loi de la Statistique, 8-9, George V, chap. 43.

Le personnel du Service des Forces Hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur, a bien voulu vérifier les réponses au questionnaire et mettre à point le présent rapport conformément à une entente convenue lors de l'institution de notre recensement annuel des industries. Le Bureau doit aussi ses remerciements au Service d'Inspection de l'Electricité et du Gaz, du ministère du Commerce, ainsi qu'aux différentes commissions provinciales d'énergie électrique.

Un autre rapport annuel est aussi publié par le Service d'Inspection de l'Electricité et du Gaz du Ministère du Commerce, donnant les noms de toutes les compagnies enregistrées sous la Loi d'Inspection de l'Electricité, avec le type de force primaire, la phase, la fréquence et le voltage de chaque réseau et le nombre de compteurs dans chaque municipalité.

R. H. COATS,
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,
OTTAWA, 31 mai 1929.

NOTICE SUR LES FORCES HYDRAULIQUES DU CANADA

Par le Service des Forces Hydrauliques, du Drainage et de L'irrigation

La captation et l'industrialisation des forces hydrauliques du Canada datent des premiers colons français qui harnachèrent les pouvoirs d'eau pour moudre leur grain et scier leur bois. Comme l'industrie prenait de l'expansion avec les développements de la colonie il fallait avoir plus ample recours aux forces hydrauliques, mais de nécessité il fallait toujours construire les établissements industriels dans le voisinage immédiat des chutes d'eau, parce que les seuls moyens de transmission étaient la courroie ou l'arbre de couche.

Avec l'adaptation du générateur électrique aux besoins commerciaux, il y a un peu de plus quarante ans, on a vu surgir une industrie nouvelle, la production d'électricité pour distribution au public, qui marqua une ère nouvelle dans le développement des pouvoirs d'eau et qui depuis ce temps a fait d'immenses progrès.

En 1890 toutes les forces hydrauliques captées du Canada donnaient seulement 71,515 h.p. dont seulement 1,165 h.p. ou moins de 2 p.c. étaient installés dans des stations électriques centrales, mais les avantages de l'électricité sont devenus si tranchés que, en 1905, l'installation des turbines hydrauliques dans les stations centrales avait dépassé les installations combinées de toutes les autres industries, et contribuait 56 p.c. du total à la fin de l'année. Depuis lors, l'installation hydraulique des stations centrales électriques a avancé continuellement et à la fin de 1928 formait 4,445,693 h.p. ou 83.1 p.c. d'une installation totale de 5,349,232 h.p. pour toutes fins, tandis qu'en 1927, la dernière année sur laquelle existent des chiffres définitifs de la production d'électricité, plus de 99 p.c. de tous les kilowatt-heures produits étaient générés par la force des chutes d'eau.

Conformément aux dispositions de l'Acte de l'Amérique Britannique du Nord de 1867, la gestion des forces hydrauliques de la Puissance tombe sous la juridiction tantôt de l'administration fédérale et tantôt des administrations provinciales.

L'autorité fédérale s'étend sur les chutes des provinces d'Alberta, de Saskatchewan et de Manitoba ainsi que des territoires du Yukon et du Nord-Ouest, qui sont administrées par le Service des Forces Hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur. Cet organisme prête également son concours aux autorités provinciales pour l'étude des travaux à entreprendre dans les différentes provinces. Le ministère fédéral des Chemins de fer et des Canaux s'occupe de tout ce qui concerne les dérivations et captations ayant pour objet des projets de canalisation; enfin, le ministère des Travaux publics, chargé de la protection de la navigation dans toutes les parties du Canada, dirige les travaux de même nature intéressant les cours d'eau navigables.

Les terres des provinces de la Colombie Britannique, d'Ontario, de Québec, du Nouveau-Brunswick, de la Nouvelle-Ecosse et de l'île du Prince-Edouard appartenant à ces provinces antérieurement à la Confédération, la gestion des forces hydrauliques de ces provinces est du ressort de leurs assemblées législatives respectives, lesquelles ont délégué leurs pouvoirs administratifs, savoir: dans la Colombie Britannique¹, au ministère des Terres; dans l'Ontario, au ministère des Terres et Forêts; dans le Québec, au ministère des Terres et Forêts; au Nouveau-Brunswick, au ministère des Terres et des Mines; dans la Nouvelle-Ecosse au Commissaire des Travaux publics et des Mines et dans l'Île du Prince-Edouard au Commissaire des Travaux publics.

¹ Les chutes d'eau de la zone ferroviaire de la Colombie Britannique appartiennent au gouvernement fédéral quoiqu'elles soient en fait gouvernées par la loi provinciale.

Dans les provinces de Manitoba, Ontario, Nouveau-Brunswick et Nouvelle-Ecosse, des commissions gouvernementales ont été formées pour le développement ou l'achat des forces hydrauliques, la transmission et la distribution de l'énergie électrique. Entre toutes, la Commission Hydroélectrique d'Ontario, créée en 1905, a acquis une très grande importance. En général, ces commissions se substituèrent aux municipalités pour la production ou l'achat coopératif de l'énergie électrique; elles remplissent également le rôle de fidéicommissaires du gouvernement provincial qui leur fournit des fonds. Les commissions de Force Motrice du Manitoba et de la Nouvelle-Ecosse, constituées en 1919, et la Commission de l'Energie Electrique du Nouveau-Brunswick, qui date de 1920, exercent des attributions similaires à celles de la Commission Hydroélectrique d'Ontario. La Commission des Eaux Courantes du Québec s'occupe activement de l'étude des cours d'eau et des chutes, ainsi que de la captation des eaux dans d'immenses réservoirs artificiels.

Avec la mise en activité en 1928 de turbines hydrauliques donnant une force combinée de 550,300 h.p., ce qui n'a été égalé qu'une fois comme nouvelle installation en un an, le total des forces hydroélectriques du Canada a atteint 5,349,232 h.p. De plus, il y avait en progrès de nouveaux développements dont quelques-uns étaient presque complétés à la fin de l'année, tandis que d'autres étaient encore dans leur phase initiale, qui ont contribué aux activités de l'année et qui ajouteront au total plus de 1,200,000 h.p.

Pour la cinquième année consécutive la province de Québec tient la tête à toutes les autres pour le nouvel outillage hydroélectrique mis en opération au cours de l'année. Des 317,300 h.p. d'installation nouvelle dans la province la plus grande partie se trouve dans les stations centrales électriques, la plus importante étant l'achèvement d'une installation initiale de 204,000 h.p. à l'usine des chutes Pagan, de la Gatineau Power Company, et des additions respectives de 45,000 h.p., 43,000 h.p. et 20,000 h.p. aux usines Duke-Price, Shawinigan Water and Power Company et Northern Quebec Power Company (usine du Pouvoir des Quinze).

Les nouvelles installations de la Colombie Britannique contribuent 79,560 h.p. provenant en plus grande partie des usines de la West Kootenay Power and Light Company, à South Slokan, où on a développé 75,000 h.p., et le complément des travaux de la West Canadian Hydro-Electric Corporation à Shuswap Falls Station, près de Vernon, avec un développement de 3,800 h.p.

En Ontario le nouvel outillage mis en opération au cours de l'année ajoute au total 71,205 h.p. provenant en entier, sauf quelques petites unités de 100 h.p. ou moins, des moulins à pulpe et à papier. La Spruce Falls Power and Paper Company a complété son usine à Smoky Falls, Rivière Mattagami, avec une installation de 56,250 h.p., le pouvoir étant transmis par une ligne de plus de 70 milles de longueur aux usines de Kapuskasing. L'Ontario and Minnesota Power Company a complété la troisième de ses usines sur la rivière La Seine, à Calm Lake, dont l'énergie est vendue à une compagnie associée de Fort Francis, tandis que la Dryden Paper Company a installé des turbines de 2,000 h.p. dans une nouvelle usine sur la rivière Eagle.

Au Manitoba, une cinquième et une sixième unités de 28,000 h.p. chacune ont été ajoutées aux usines de Great Falls de la Manitoba Power Company, tandis qu'au Nouveau-Brunswick, une première unité de 20,000 h.p. a été mise en activité par la St. John River Power Company à son usine de Grand Falls.

La Nouvelle-Ecosse a fourni trois installations nouvelles, dont la plus grande est une de 4,350 h.p. L'Île du Prince-Edouard a fourni une nouvelle installation de 165 h.p. ce qui complète le total de l'année.

Le Service des Forces Hydrauliques, du Drainage et de l'Irrigation, conjointement avec les différents corps provinciaux, a fait un relevé coordonné et une analyse de nos forces hydrauliques dans le but de présenter un tableau

de ces ressources canadiennes sur une base uniforme et fiable. Comme résultat d'une réanalyse et de la computation par le service fédéral, le total de force hydraulique développée au Canada s'établit comme suit:

Provinces	Force motrice utilisable en 24 heures, à 80 p.c. du débit		Turbines installées, h.p.
	Au minimum habituel du débit	Au débit normal (pendant 6 mois)	
1	2	3	4
Colombie Britannique.....	1,931,000	5,103,500	554,792
Alberta.....	390,000	1,049,500	34,532
Saskatchewan.....	542,000	1,082,000	35
Manitoba.....	3,309,000	5,344,500	311,925
Ontario.....	5,330,000	6,940,000	1,903,705
Québec.....	8,459,000	13,064,000	2,387,118
Nouveau-Brunswick.....	87,000	120,800	67,131
Nouvelle-Ecosse.....	20,800	128,300	74,356
Ile du Prince-Edouard.....	3,000	5,300	2,439
Territoires du Yukon et du Nord-Ouest.....	125,200	275,300	13,199
Total.....	20,197,000	33,113,200	5,349,232

Les chiffres des colonnes 2 et 3 comprennent uniquement les rapides, chutes, etc., susceptibles de captation et dont le débit utilisable est bien connu ou tout au moins approximativement établi. Il existe d'un littoral à l'autre un grand nombre de rapides et chutes de capacités variables, qui échappent à l'inventaire ci-dessus faute d'être suffisamment connus. La relation entre les forces actuellement captées et les forces potentielles disponibles démontre que les ressources de la Puissance en forces hydrauliques telles qu'inventoriées maintenant permettraient l'installation de turbines développant 42,000,000 h.p.

Cette estimation ne représente que le minimum des forces hydrauliques potentielles de la Puissance. A l'appui de cette assertion on peut citer le cas des provinces de Nouveau-Brunswick et de Nouvelle-Ecosse: une étude approfondie des ressources hydrauliques de ces provinces a révélé la possibilité de construire à peu de frais des réservoirs régulateurs au moyen desquels chacune de ces provinces produirait entre 200,000 et 300,000 h.p.

Avec 554 h.p. de forces hydrauliques captées par 1,000 âmes, le Canada occupe une situation prédominante parmi les nations au regard de l'utilisation des forces hydroélectriques. Ces énormes réserves sont l'âme du progrès industriel; elles fourniront les moyens d'exploiter les autres ressources naturelles de la Puissance, spécialement si leur progrès est bien coordonné avec le développement et l'utilisation de nos vastes réserves de combustible.

OTTAWA, 1er mars 1929.

GÉNÉRATION ET DISTRIBUTION DE L'ÉLECTRICITÉ, 1927

Le recensement de l'industrie électrique au Canada est fait chaque année en vertu de la loi de la Statistique, 1918 (8-9 George V, chap. 43) au moyen de questionnaires adressés par la poste à toutes les usines centrales électriques. Aucun officier ou représentant du Bureau ne va sur place pour vérifier les renseignements, mais toutes les réponses sont examinées et révisées par un personnel spécial et les données manquant, aussi bien que les corrections désirées, sont obtenues par correspondance.

Pour les fins du recensement, les usines centrales électriques sont définies: des compagnies, municipalités ou individus vendant ou distribuant l'énergie électrique, soit qu'ils l'aient eux-mêmes produite, soit qu'ils l'aient achetée

pour la revendre. Ces usines sont divisées en deux catégories, savoir: (a) commerciales, c'est-à-dire celles qui sont exploitées par des compagnies ou des individus et (b) municipales, c'est-à-dire celles appartenant soit aux municipalités, soit aux gouvernements provinciaux ou fédéral. Les usines sont également subdivisées entre (a) génératrices, c'est-à-dire celles qui produisent le courant qu'elles vendent, y compris celles qui achètent du courant pour compléter leur production et (b) non-génératrices, c'est-à-dire les usines achetant tout le courant qu'elles vendent. Cette seconde classe embrasse cinq usines possédant la machinerie nécessaire à la production de l'électricité dans les cas d'urgence. Dans cette seconde classe se trouvent 15 usines ayant un outillage de génération auxiliaire. Dix de ces dernières achetaient toute leur électricité et les cinq autres en produisaient seulement 124,000 k.h. Ceci explique l'anomalie du tableau 14 dans l'item montrant la production des usines non génératrices.

Ces statistiques comprennent aussi certaines données sur des usines engagées dans la production primaire d'autres industries, telles que les mines, les manufactures de pulpe et de papier, etc., qui vendent le surplus de l'énergie produite. Autant que possible, on a détaché de ces industries les statistiques affectant leur propre industrie plutôt que l'industrie des usines centrales électriques. Plus tard, en expliquant les tableaux 3 et 15 inclusivement, nous donnerons l'explication de chaque item et de chaque tableau pour mieux éclairer ce point.

L'expansion de l'industrie telle qu'indiquée par sa production a été rapide et assez continue. En 1919, première année pour laquelle la production a été calculée, on avait généré 5,497,204,000 k.h., et en 1927 ce chiffre avait augmenté de 165 p.c. et pendant une seule année, 1921, il y eu un déclin qui fut d'environ 5 p.c. du chiffre de l'année précédente; mais en 1922, 1923, 1926 et 1927, il y eu chaque année des augmentations de 20 p.c., comme le montre le tableau ci-dessous. La forte augmentation dans la production des usines municipales et la diminution des usines commerciales en 1923 sont partiellement le résultat de l'acquisition du réseau de la Toronto Power Company par la Commission Hydroélectrique de l'Ontario.

PRODUCTION DES USINES CENTRALES ÉLECTRIQUES

(En milliers de k.h.)

Année	Augmentation sur l'année précédente	Total	Usines com- merciales	Usines muni- cipales
	p.c.			
1927.....	20	14,549,099	9,944,422	4,604,677
1926.....	20	12,093,445	7,797,480	4,295,965
1925.....	9	10,110,459	6,527,103	3,583,356
1924.....	15	9,315,277	6,024,312	3,290,965
1923.....	20	8,099,192	5,074,120	3,025,072
1922.....	20	6,740,750	5,119,676	1,621,074
1921.....	-5	5,614,132	4,316,272	1,297,860
1920.....	7	5,894,867	4,456,428	1,438,439
1919.....	-	5,497,204	4,191,223	1,305,981

L'électricité peut être exportée du Canada seulement sur permis spécial accordé par le Service d'Inspection de l'Electricité et du Gaz du ministère du Commerce, et ce même service fait la perception du droit d'exportation qui a été imposé depuis le 1er avril 1925. Au cours de l'année fiscale terminée le 31 mars 1928, les droits d'exportation ont donné \$373,676.21, comparative-ment à \$357,421.89 l'année précédente. Le tarif est de trois centièmes d'un cent par k.h. sur toute l'énergie électrique exportée, avec quelques exceptions. Le tableau ci-dessous donne les quantités d'énergie électrique produite pour l'exportation par chaque compagnie et la quantité totale générée par chacune pendant l'année civile 1927, la production montrée étant uniquement celle des usines faisant de l'exportation. Les exportations de la Commission Hydro-

TABLEAU 3.—USINES GÉNÉRATRICES

La définition d'une usine centrale électrique, telle qu'adoptée pour les fins de ce recensement, est donnée au commencement de ce rapport, et en vertu de cette définition, le nombre d'organisations commerciales et municipales vendant de l'énergie électrique correspondrait au nombre d'usines. Cependant, quelques organisations exploitent plusieurs réseaux qui se trouvent dans des municipalités différentes et qui ne sont pas raccordés par les lignes de transmission, tandis que dans d'autres cas plusieurs municipalités sont servies par une seule usine génératrice. Chaque organisation est inscrite comme une seule ou plusieurs usines suivant le rapport qu'elle fait. Si une organisation commerciale fait un rapport distinct pour chacune de ses compagnies subsidiaires, chaque telle compagnie subsidiaire est comptée comme une unité, tandis que si le rapport couvre toutes les compagnies, mention n'est faite que d'une seule organisation. Le contrôle est tellement varié qu'il ne serait pas pratique d'en agir autrement. Les usines génératrices figurant dans ce tableau sont des usines individuelles, sans tenir compte de leur propriétaire ou de leur localité. Dans d'autres cas, deux ou un plus grand nombre d'usines sont exploitées par une compagnie, les unes se trouvant voisines ou à plusieurs milles de distance des autres.

Le nombre d'usines génératrices a augmenté de 34 au cours de l'année, l'addition aux usines hydrauliques étant de 8 et aux usines à combustible, de 26. La plus forte augmentation est dans la Saskatchewan où 19 nouvelles usines ont surgi. Les 158 usines de la Saskatchewan, qui sont toutes des usines à combustible, sont des systèmes locaux généralement petits générant en moyenne moins de 500 h.p. chacun, et sauf les usines de Regina, Moose Jaw, Saskatoon et Prince Albert, elles ont une puissance moyenne de 115 h.p. Les usines non génératrices, ou les organisations commerciales et municipales achetant énergie qu'elles redistribuent, ont augmenté de 460 en 1926 à 469 en 1927; de celles-ci 307 se trouvent dans l'Ontario où un plus grand nombre de municipalités achètent l'énergie de la commission provinciale.

TABLEAU 4.—CAPITAL

Le capital nanti dans l'industrie paraît sous quatre en-têtes: génération, transmission, distribution et général. La génération comprend le capital engagé dans la construction des usines et leurs sites, les barrages, les conduites forcées, les canaux de fuite, les vannes de garde et de surcharge, les réservoirs pour régler le débit des eaux, etc. ainsi que l'outillage des usines génératrices à l'exception des transformateurs d'accélération et autres outillages de transmission. La transmission comprend les argents dépensés dans la construction et l'établissement des usines de réception, des droits de passage des lignes de transmission et les transformateurs d'accélération. La distribution comprend les fonds placés dans les sous-stations et leurs sites ainsi que le droit de passage des lignes de distribution, les tableaux de distribution et les transformateurs de ralentissement dans les usines de réception et les sous-stations, les lignes de distribution, les transformateurs de lignes, les compteurs, etc. L'item «général» comprend les argents placés dans les bureaux et leurs sites, l'ameublement, les matériaux et les fournitures en main, l'argent en caisse, les comptes courants et les comptes et billets payables. Le total représente tout le capital engagé dans l'industrie.

Le capital total de \$866,825,285 est le plus fort engagement dans une industrie canadienne quelconque excepté l'agriculture ou les chemins de fer. L'industrie manufacturière qui vient en deuxième par la magnitude de son capital est celle de la pulpe et du papier avec \$579,853,552. L'augmentation de l'année, \$110,605,219, est la plus grande pour toute année distincte et son principal facteur a été une augmentation de \$63,857,577 dans les usines hydrauliques commerciales du Québec, tandis que toutes les usines commerciales du

Québec donnent une augmentation de \$64,319,614. La deuxième plus forte augmentation se constate dans les usines commerciales de l'Ontario qui donnent \$24,168,844 et les usines municipales de l'Ontario qui donnent \$9,422,129. Ces trois groupes d'usines sont responsables de plus de 88 p.c. de toutes les augmentations au Canada au cours de l'année.

TABEAU 5.—RECETTES

Les recettes paraissent sous deux en-têtes, (a) recettes provenant de la vente d'électricité pour fins d'éclairage, et (b) recettes provenant de la vente de courant pour fins d'énergie et à d'autres usines pour revente. Les usines sont priées de faire cette division dans leur rapport et d'en donner une estimation quand il est impossible de faire une répartition exacte. Il y a toujours entre différentes usines de forts échanges de courant, une certaine partie passant par jusqu'à trois usines avant d'atteindre le consommateur final. Il est donc évident que les recettes totales rapportées par les usines contiennent beaucoup de double emploi. Le revenu brut d'une usine individuelle a une certaine signification, mais le revenu brut d'un groupe de stations, comprenant de fortes sommes qui sont les paiements de quelques-unes des stations de ce groupe à d'autres stations dans le même groupe, ne peut qu'établir la confusion à moins que le montant du double emploi soit clairement montré. Pour cette raison les recettes brutes ne paraissent pas dans ce rapport et chaque fois qu'il est question de recettes il faut comprendre qu'il s'agit de recettes nettes. Les recettes nettes sont le revenu total d'une usine moins les montants payés par elle pour le courant échangé entre usines et en conséquence ne sont que les montants payés par les consommateurs.

Les recettes totales donnent sur celles de 1926 une augmentation de \$15,099,564 ou 17 p.c. Les usines du Québec ont une augmentation de \$7,876,967, celles de l'Ontario \$4,395,653 et celles de la Colombie Britannique \$1,396,506. La moyenne de recettes par kilowatt-heure devrait continuer de montrer une diminution. En 1923 cette moyenne était de .83 cents, en 1924 .80 cents, en 1925 .78 cents, en 1926 .74 cents et en 1927 elle était de .72 cents. Ces diminutions proviennent de deux facteurs principaux: une plus grande consommation principalement par les plus forts consommateurs et une réduction des taux, mais il est extrêmement difficile d'en mesurer les effets séparément. Les usines du Québec donnent la plus basse moyenne avec .52 cents et celles du Manitoba viennent en second avec .62 cents. Cette diminution au Manitoba de .62 cents en 1927 comparativement à .77 cents en 1926 provient en grande partie de la vente d'énergie à une papeterie qui a commencé ses opérations en 1927 et qui se sert de courant électrique comme force motrice et pour le chauffage de l'eau. Le courant fourni à cette industrie est un surplus vendu à très bas prix. Ces moyennes sont calculées en prenant la production totale des usines y compris toutes les pertes et les coulages sur les lignes et les transformateurs et en conséquence les recettes moyennes par k.h. dans l'Île du Prince-Edouard et la Saskatchewan sont élevées, se trouvant plus près du voisinage des moyennes payées par le consommateur pour l'énergie enregistrée à leur compteur que dans l'Ontario, le Québec et les autres provinces où les lignes de distribution et de transmission sont très étendues, et par conséquence sont exposées à des coulages beaucoup plus considérables.

Une erreur aussi commune est de nommer et de considérer comme recettes moyennes par k.h. le coût de l'électricité payé par le consommateur et de prétendre ensuite que les usines avec des moyennes très basses de recettes par unité de production vendent leur électricité à meilleur marché que les usines ayant des moyennes de revenu beaucoup plus élevées. La fausseté d'une telle prétention est très souvent évidente parceque le coût actuel des charges spécifiques et les consommations sont calculés par des stations différentes. Les recettes moyennes par k.h. de quelques usines d'un même groupe paraissant

dans ce tableau sont très souvent supérieures à celles d'autres usines, mais le coût réel pour service identique dans ces villes d'approximativement la même population n'offre pas toujours les mêmes différences.

Certainement que des taux peu élevés ont pour résultat une basse moyenne de recettes, mais le principal facteur d'une basse moyenne dans ce tableau se trouve dans l'énorme quantité de courant vendu aux gros consommateurs s'en servant presque en continuité pendant 24 heures par jour à l'année.

L'appendice B du rapport de 1926 donne les comptes d'éclairage domestique pour consommations spécifiques et le Bureau s'occupe actuellement de mettre ces comptes à date et d'en compiler de semblables pour l'éclairage commercial, de même que pour la force motrice avec des charges de 5 h.p., 25 h.p. et 100 h.p. Ces données offriront une meilleure base de comparaison actuelle des coûts que ne le peut le présent rapport.

TABLEAU 6.—DÉPENSES

Les dépenses paraissant au tableau 6 ne sont pas les dépenses totales, car on n'y voit que quatre item: les salaires, le combustible, les taxes et le coût de l'énergie, et tout calcul des profits de ces données devrait comprendre les estimations des autres dépenses. Les taxes dans ce tableau couvrent l'impôt sur le revenu, les taxes fédérales et municipales, taxes de propriété et toutes autres taxes. Le total des usines municipales atteint seulement 9 p.c. du grand total bien que leur capital total soit 39 p.c. du capital total et leur revenu 43 p.c. du revenu total. Les taxes des usines commerciales forment 6.4 p.c. de leurs recettes nettes, tandis que pour les usines municipales elles ne forment que 0.8 p.c. Le coût de l'énergie est le montant payé par les usines pour le courant échangé entre les usines. Les usines non génératrices achètent tout le courant qu'elles distribuent mais les usines génératrices en achètent aussi des quantités considérables les unes des autres, ce qui leur a valu en 1927 une dépense de \$10,894,665 ou plus de 35 p.c. du total pour toutes les usines. Le coût total de l'énergie compris dans les recettes brutes des usines qui vendent est déduit du total des recettes brutes, ce qui donne les recettes nettes du tableau 5. Les usines à combustible ont payé \$1,955,272 pour leur combustible et ont produit 202,525,000 k.h., ce qui donne une moyenne de .96 cents par k.h., tandis que les installations auxiliaires des usines hydrauliques ont consommé pour \$342,416 de combustible et quelques usines, qui achètent pratiquement tout le courant qu'elles distribuent et qui sont classées dans les usines non génératrices, contribuent pour le reste, soit \$5,129, de toutes dépenses en combustible se montant à \$2,302,817. Les usines de la Saskatchewan ont payé \$827,586 ou 36 p.c. du total, celles de l'Alberta \$479,342 et celles de la Nouvelle-Ecosse \$236,792. Les salaires et gages donnent \$3,003,315 ou 15 p.c. de plus que l'année précédente, les plus fortes augmentations se trouvant \$1,655,424 en Ontario, \$484,828 en Colombie Britannique et \$463,374 en Québec.

TABLEAU 7.—PERSONNEL

Les usines sont priées de faire rapport de tous leurs employés et de tous les salaires, et lorsqu'un employé est engagé dans des occupations autres que celles de la génération et de la distribution électriques, comme un employé municipal qui est détaché de son travail à l'électricité pour s'occuper d'autres travaux municipaux, comme au département de l'aqueduc, déduction doit être faite de son temps. Le nombre d'employés à gages est la moyenne mensuelle et par conséquent montre l'influence des variations saisonnières. Le nombre d'employés a augmenté de 1,302, ou 10 p.c., tandis que les total des salaires a augmenté de \$3,003,315, ou 15 p.c. La plus forte augmentation se trouve dans le Québec, où 403 employés ont été ajoutés à la liste de paye. En Colombie Britannique, cette augmentation est de 368 employés et en Ontario, de 195 employés, tandis qu'en Alberta il y a une faible diminution.

TABLEAU 8.—CONSOMMATEURS

Les personnes achetant l'électricité pour l'éclairage domiciliaire sont classifiées comme clients d'éclairage domestique. Les places d'affaires, bureaux, écoles, etc. achetant l'électricité pour l'éclairage sont classifiés comme clients pour l'éclairage commercial, tandis que le consommateur achetant le courant électrique au taux d'énergie sont classifiés comme clients industriels.

Les petites chaufferettes électriques, les petits moteurs et autres appareils sont le plus souvent actionnés par le circuit d'éclairage bien que, en certains cas, ils soient sujets à une charge spéciale où le courant est mesuré par un compteur spécial comme il arrive souvent par exemple pour les poêles de cuisine et les chaufferettes à eau. Les duplications dans le nombre de consommateurs paraissant dans les rapports des années précédentes proviennent de cette dualité de compteurs et pour cette raison le nombre de clients donnés dans ce tableau et dans les tableaux 1 et 2 n'est pas directement comparable avec les chiffres correspondants des années précédentes.

La moyenne du nombre de clients pour l'éclairage domestique par 100 âmes paraissant au bas du tableau a été calculée en prenant comme base tous les clients de l'éclairage domestique et la population totale de chaque province telle qu'estimée par le Bureau sur les données officielles. La Colombie Britannique donne la plus grande densité avec 18.04 clients d'éclairage domestique par 100 âmes. L'Ontario est second avec 15.45 et le Québec troisième avec 12.56. Pour une exacte comparaison de ces densités dans chaque province il faut prendre en considération les dimensions de chaque logement et famille. Le recensement de 1901 nous donne comme suit, les moyennes du nombre de personnes dans chaque famille:

Ile du Prince Edouard.....	4.71
Nouvelle-Ecosse.....	4.82
Nouveau-Brunswick.....	5.04
Québec.....	5.34
Ontario.....	4.30
Manitoba.....	4.73
Saskatchewan.....	4.49
Alberta.....	4.17
Colombie Britannique.....	4.03
CANADA.....	4.63

En appliquant ces moyennes de 1921 aux populations de 1927 la Colombie Britannique se trouve encore à la tête de la liste avec 72.7 de clients d'éclairage domestique par 100 habitations ou logements, mais les positions de l'Ontario et du Québec sont interverties, Québec prenant la deuxième place avec 67.1 et l'Ontario la troisième avec 66.4 clients d'éclairage domestique par 100 ménages. Les forts pourcentages de ces trois provinces, comparativement aux six autres, sont l'effet des concentrations de la population dans les grands centres urbains et, comme on pourrait s'y attendre, les provinces aux populations disséminées sur de grandes superficies ne peuvent montrer de telles densités.

TABLEAU 9.—MILLES DE LIGNES SUR POTEAUX

La longueur en milles de lignes sur poteaux est répartie en deux divisions, (a) transmission qui comprend les lignes partant des usines génératrices pour atteindre les usines de distribution, et (b) les lignes de distribution qui comprennent les lignes des stations de réception jusqu'aux sous-stations et jusqu'aux consommateurs et, si le pouvoir n'est pas intensifié dans une usine de transmission, toute la longueur de lignes de ce système est comprise comme lignes de distribution. Ces lignes sont mesurées sans tenir compte du nombre de circuits portés sur les poteaux ou pylones. La longueur des lignes sur poteaux a augmenté de 3,878 milles au cours de l'année, dont 1,646 milles en lignes de transmission et 2,232 milles en lignes de distribution. Les plus fortes augmentations sont dans le Québec et l'Ontario avec respectivement 767 et 303 milles de lignes de transmission et 532 milles et 1,162 milles de distribution

TABLEAUX 10-11-12.—OUTILLAGE

L'outillage des usines de génération est divisé en deux classes, les usines principales et les usines auxiliaires. Les usines auxiliaires comprennent tous les engins à vapeur, turbines à vapeur et engins à combustion interne ainsi que les dynamos mues par ces engins, dans les usines hydroélectriques, et tout l'outillage des usines non génératrices. Tout le reste de l'outillage est classifié comme appartenant à l'usine principale et comprend les roues hydrauliques et turbines ainsi que les générateurs mus par la force hydraulique dans les usines hydroélectriques et tout l'agencement dans les usines se servant exclusivement de combustible. Il est très possible que quelques-unes des usines à combustible ayant un outillage auxiliaire auquel elles puissent recourir dans les cas d'urgence ou pour les maxima de charges imprévus et que quelques usines hydrauliques ayant un outillage hydraulique supplémentaire pour de telles fins, aient mentionné ces outillages auxiliaires comme faisant partie de l'usine principale. Bien qu'un très petit nombre des usines hydroélectriques aient recours à leur usine à vapeur plus ou moins régulièrement pendant la période d'eau basse ou pendant les périodes de très forte demande, la plus grande partie de cet outillage et de sa production est réservée pour les cas de stricte urgence. Sur un total de 145,047 h.p. de pouvoir primaire auxiliaire, 11,983 h.p. appartenaient à des usines classifiées comme non génératrices et le reste, 133,064 h.p., comme outillage auxiliaire d'usines hydrauliques.

L'outillage auxiliaire des usines montre une réduction de 31,818 h.p. comprenant 12,675 h.p. dans les usines non génératrices et 19,143 h.p. dans les usines à vapeur des usines hydrauliques, tandis que la capacité des roues d'eau et des turbines dans les usines hydrauliques a augmenté de 365,627 h.p. Les usines à combustible donnent une augmentation de 38,399 h.p. dans leur capacité de pouvoir primaire fourni dans presque tous les cas par des turbines à vapeur, les engins à explosion ne montrant qu'une faible augmentation tandis que les engins à vapeur à double action donnent une diminution.

TABLEAU 13.—CLASSIFICATION DE L'OUTILLAGE DES USINES PRINCIPALES

La classification des roues d'eau, des moteurs et des dynamos suivie dans ces statistiques est celle des manufacturiers, excepté que là où les usines ont constaté par l'observation que la consommation diffère de la capacité de leurs moteurs, ils en ont donné une consommation représentant la moyenne de leurs opérations normales. Dans ce rapport on a créé une nouvelle classe de turbines hydrauliques afin de mettre à part les fortes unités de 25,000 h.p. et plus, qui, en 1927, donnent une moyenne au-dessus de 42,000 h.p. Les neuf unités de cette classe en Ontario sont toutes dans l'usine de Queenston, de la Commission Hydroélectrique, et les 19 unités du Québec sont distribuées comme suit: trois à l'usine de Chelsea, de la Gatineau Power Company; dix à l'usine de Duke-Price Power Company; quatre à l'usine St. Maurice Power Company et une chacune aux usines de Shawinigan Water & Power Company et Ottawa River Power Company.

Bien qu'il y ait eu en activité 311 dynamos à courant direct, le plus grand nombre (279) étaient plutôt de force limitée ayant une moyenne de 11.8 kilowatt. Ces petites dynamos sont pour le plus grand nombre actionnées par des moteurs à gazoline.

TABLEAU 14.—ÉNERGIE ÉLECTRIQUE PRODUITE

Le courant électrique généré est la production des usines génératrices et, en conséquence, comprend toutes les pertes dans les transformateurs et les lignes de transmission advenant entre l'usine génératrice et le consommateur définitif. Toutes les grandes usines mesurent leur production et celles qui n'ont pas de compteurs par k.h. estiment aussi approximativement que possible

en k.h. Les capacités indiquées en K.V.A. sont celles des dynamos à la fin de l'année tant dans les usines principales que dans les usines auxiliaires dans les stations génératrices, mais les proportions de production relativement à la capacité moyenne indiquée sont calculées sur la quantité de k.h. générées et la capacité des dynamos multipliée par le nombre d'heures durant l'année au cours desquelles le courant a été produit. Ainsi la plus grande capacité d'une dynamo de 1,000 K.V.A. pour l'année serait de 8,760,000 k.h. mais si elle a été mise en place le 30 novembre son maximum de capacité serait réduit à seulement 744,000 k.h. Conséquemment ces proportions sont directement comparables pour chaque année sans tenir compte des dates auxquelles de fortes additions sont faites à la puissance génératrice de l'industrie et les hausses et les baisses de ces proportions ne peuvent qu'indiquer la position relative de la demande qui est faite de l'offre sur une base de k.h. La production de 14,549,099,000 k.h. donne sur l'année précédente un excédent de 2,455,654,000 k.h. ou 20 p.c., tandis que la production totale des usines génératrices est de 49.5 p.c. de la capacité maximum de l'outillage, ce qui est la plus forte proportion atteinte jusqu'à ce jour dans l'industrie. En 1922 cette proportion était de 42.1 p.c.; en 1923 de 47.0 p.c. et en 1924 de 48.5 p.c. En 1925, avec une augmentation de 25 p.c. dans la capacité de l'industrie en k.h., cette proportion baissait à 42.2 p.c. mais en 1926 elle augmentait à 45.5 p.c. et en 1927 à 49.5 p.c. La vente du surplus d'énergie quand se produisent des baisses quotidiennes de consommation contribue grandement à relever ces proportions. Les moulins de pulpe et papier se servent de cet excédent d'énergie pour chauffer l'eau et ce depuis plusieurs années, et en Ontario, la commission provinciale exporte son surplus en quantités assez considérables depuis 1925, comme le montre le tableau des exportations. Les usines commerciales du Québec sont le grand facteur dans l'augmentation de 2,464,336,000 k.h. des usines génératrices. Elles ont augmenté leur production de 1,594,879,000 k.h., ou 32.6 p.c., et ont élevé leur proportion relative de production comparative-ment à leur maximum possible de production de 47.8 p.c. en 1926 et 53.5 p.c. Les usines commerciales du Manitoba ont augmenté leur production de 225,860,000 k.h. ou de 78 p.c. et ont élevé leur proportion de 41.5 p.c. à 53.7 p.c. Les additions à l'outillage des usines du Manitoba ont permis cette augmentation de production, mais le moulin à pulpe et papier mentionné plus haut est en très grande partie responsable de cette augmentation tant dans la production que dans la consommation. Toutes les stations génératrices commerciales donnent une augmentation de 2,149,193,000 k.h. ou 27.6 p.c., celles du Québec et du Manitoba fournissant 85 p.c. de cette augmentation tandis que les usines génératrices municipales donnent une augmentation de 315,143,000 k.h. ou 7.3 p.c.

Les usines à combustible ont produit 28,925,000 k.h. de plus qu'en 1926, mais leur production totale est de seulement 16.2 p.c. de leur capacité maximum comparativement à 15.4 p.c. en 1926. Il y a peu d'usines à combustible considérables au Canada et le plus grand nombre des usines à combustible servent principalement à fournir le courant pour l'éclairage; en conséquence leur outillage n'est employé à plein rendement qu'une faible partie du temps.

TABEAU 15.—COMBUSTIBLE

Ce tableau donne l'énumération du combustible employé par les usines à combustible et par les usines auxiliaires des usines hydrauliques ainsi que dans les usines non génératrices toujours pour générer le courant. En 1927 on a séparé le combustible canadien de celui qui est importé. Le seul combustible importé pour l'industrie est le charbon dont 68 p.c. en valeur a été consommé par les usines de l'Ontario. Les usines de la Saskatchewan ont consommé 67 p.c. de gazoline, 64 p.c. de kérosène et 49 p.c. de pétrole, en quantité, et, en valeur, 55 p.c. du total provenant de ces huiles combustibles.

Un rapport à peu près semblable à l'Appendice B du rapport de 1926 paraîtra sous peu. L'année servant au calcul des nombres indices pour l'éclairage domestique a été changée et portée à 1926 afin que, après avoir été mis à date en montrant les comptes d'éclairage domestiques paraissant dans le rapport de 1926 il puisse donner aussi les comptes de plusieurs municipalités dont les données n'étaient pas disponibles quand 1913 est employé comme base. Ce rapport donnera aussi les mêmes informations sur les comptes d'éclairage commercial et de force motrice.

APPENDICE A

PRODUCTION MENSUELLE DES USINES CENTRALES ÉLECTRIQUES

Les données des tableaux qui suivent sont fournies chaque mois par les grandes usines seulement, mais comme ces dernières produisent plus de 99 p.c. de tout le courant canadien, les fluctuations peuvent être considérées comme représentant celles de toute l'industrie au pays.

CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
~~TRANSPORTATION AND PUBLIC UTILITIES BRANCH~~

CENSUS OF INDUSTRY, 1928

Electric power

CENTRAL ELECTRIC STATIONS IN CANADA

(Prepared in collaboration with the Dominion Water Power and Reclamation Service, Department of the Interior, with the assistance of The Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and the Manitoba Power Commission)

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PREFACE

The data pertaining to the central electric station industry in Canada are collected and the report is compiled by the Bureau under authority of the Statistics Act, 8-9, George V, Chap. 43.

The Bureau is indebted to the Dominion Water Power and Reclamation Service of the Interior Department for checking both the schedules and the report, which was done under a co-operative arrangement made when the annual census was inaugurated. The Bureau also wishes to gratefully acknowledge the assistance received from the Electricity and Gas Inspection Service of the Department of Trade and Commerce and from the several provincial power commissions.

An annual report is also published by the Electricity and Gas Inspection Service Branch of the Department of Trade and Commerce, giving the names of all companies registered under the Electricity Inspection Act, the type of prime mover, phase, frequency and voltages of each system and the number of meters in each municipality.

R. H. COATS,
Dominion Statistician

DOMINION BUREAU OF STATISTICS,
OTTAWA, May 26, 1930.

NOTE ON CANADIAN WATER POWERS

BY

The Dominion Water Power and Reclamation Service

Canada's water power resources form one of her most striking and important national assets. Their nature, extent and location combine to give them a special value in relation to the chief centres of industry and population. Water power is available in every province and is, apart from the human factor the most vital force behind Canadian industrial development. Its influence upon the trend and expansion of this development is evident and the Dominion's continued progress as a manufacturing country of the first importance is assured by the abundance of low-priced power afforded by her great water power resources.

The development of a wide range of Canada's other natural resources is dependent upon the utilization of her water power. This is particularly the case in regard to the development of her great mining and pulp and paper industries while the economy of production of hydro-electricity has resulted in over 98% of the total electrical energy for public sale being produced by water power.

The administration of the water resources of the Dominion, is in accordance with the terms of the British North America Act of 1867, a divided federal and provincial responsibility.

The federal authority extends over the water powers of the provinces of Alberta, Saskatchewan and Manitoba and the Yukon and Northwest Territories, administrative control being exercised by the Dominion Water Power and Reclamation Service, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water-power administration in their respective provinces. The federal Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the provinces of British Columbia, Ontario, Quebec, New Brunswick, Nova Scotia, and Prince Edward Island were the property of the respective provinces before Confederation, administrative control of water powers situated within these provinces became vested in the Legislative Assemblies, active administration being carried on in British Columbia⁽¹⁾, by the Department of Lands; in Ontario, by the Department of Lands and Forests; in Quebec, by the Department of Lands and Forests; in New Brunswick by the Department of Lands and Mines; in Nova Scotia by the Commissioner of Public Works and Mines; and in Prince Edward Island by the Commissioner of Public Works.

In Manitoba, Ontario, New Brunswick and Nova Scotia, commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commissions, formed

⁽¹⁾ Title to water powers in the Railway Belt of British Columbia is vested in the Federal Government, although they are at present administered under the Provincial Water Act.

in 1919, and the New Brunswick Electric Power Commission in 1920, have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water power purposes.

The steady growth of water power development was maintained during 1929, the installation of 377,930 h.p. bringing Canada's total hydraulic development to 5,727,162 h.p. while the installation of more than 3,000,000 h.p. additional is in active prospect. The trend of development by central electric station organizations, so marked in recent years, was continued during 1929 as, with the exception of the installation of 5,850 h.p. by two pulp and paper companies and of the replacement of turbines resulting in a net increase of 287 h.p. in a knitting mill the entire new installation of 377,930 h.p. was installed for public distribution.

Quebec, as has been the case during each of the six past years, led in new equipment brought into operation during the year. Of the 208,312 h.p. of new equipment installed in that province during the year only two items totalling 637 h.p. were installed by individual industries, the entire remainder constituting additions to existing central electric stations or marking the establishment of new ones.

The Gatineau Power Company added one unit to each of its Chelsea and Farmers stations on the Gatineau river and one to its Bryson station on the Ottawa river, a total addition of 83,000 h.p. The Shawinigan Water and Power Company added a 43,000 h.p. unit to its Shawinigan Falls Station No. 2. The Montreal Island Power Company completed the initial installation, 72,000 h.p. of its plant on des Prairies river. The City of Sherbrooke completed a 5,800 h.p. plant at Westbury on the St. Francois river and tied it into its municipal electric system. The Southern Canada Power Company brought into operation a 2,000 h.p. plant on the Nigger river near Ayers Cliff, while a number of smaller installations completed the total.

In the province of Ontario 48,350 h.p. was installed during the year. The International Nickel Company of Canada completed a 28,200 h.p. development at Big Eddy Dam on the Spanish river while the Algoma District Power Company installed the first unit, 11,000 h.p. of a plant to replace a former plant of 1,600 h.p. at High Falls on the Michipicoten river. The Hydro-Electric Power Commission of Ontario installed three new plants during the year, the largest, 5,000 h.p. at Far Falls on the English river, one of 2,200 h.p. at Trethewey Falls on the South Muskoka and one of 1,800 h.p. at Elliott Chute on the South river. The rebuilding of the plant of the Chapleau Electric Light and Power Company on the Kebaquash river resulted in a net increase of 150 h.p.

In Alberta the Calgary Power Company completed and brought into operation a new plant, its third on the Bow river, with an installation of 36,000 h.p. at the Ghost site.

In the Maritime provinces hydro-electric development has been particularly active in New Brunswick and Nova Scotia, the new installation in each province being in excess of that of any preceding year. The St. John River Power Company added the second and third units of 20,000 h.p. each to its plant at Grand Falls, New Brunswick, while the Bathurst Power and Paper Company added a 5,500 h.p. unit to its Nipisiguit river plant in the same province. The Nova Scotia Power Commission completed three plants on the Mersey river of an aggregate installation of 30,900 h.p. and one on the Tusket river where 3,000 h.p. was installed. The Avon River Power Company completed a small plant, 500 h.p. on Fall river, and completed the addition of a 368 h.p. unit in a plant on the East river which it had acquired from the Chester Light and Power Company.

In British Columbia, while new equipment actually brought into operation was the smallest for several years great activity occurred in projects under con-

struction or in course of investigation. One of the subsidiaries of the British Columbia Power Corporation, the Vancouver Island Power Company completed 2,000 h.p. installation at its Jordan river diversion dam while the City of Nelson added a 3,000 h.p. unit to its plant at Upper Bonnington Falls on the Kootenay river. These were the only installations completed during the year.

The Dominion Water Power and Reclamation Service, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water power analysis for the purpose of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful re-analysis and computation by the Service, the total available and developed water-power resources of Canada are presented as follows:—

Province	Available 24-hour power at 80 per cent efficiency		Turbine installation h.p.
	At ordinary minimum flow h.p.	At ordinary six months flow h.p.	
1	2	3	4
British Columbia.....	1,931,000	5,103,500	559,792
Alberta.....	390,000	1,049,500	70,532
Saskatchewan.....	542,000	1,052,000	35
Manitoba.....	3,309,000	5,344,500	311,925
Ontario.....	5,330,000	6,940,000	1,952,055
Quebec.....	8,459,000	13,064,000	2,595,430
New Brunswick.....	68,600	169,100	112,631
Nova Scotia.....	20,800	128,300	109,124
Prince Edward Island.....	3,000	5,300	2,439
Yukon and Northwest Territories.....	294,000	731,000	13,199
Canada.....	20,347,400	33,617,200	5,727,162

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of 43,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 584 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

OTTAWA, April 4, 1930.

CENTRAL ELECTRIC STATION INDUSTRY, 1928

The census of the central electric station industry in Canada is taken each year under authority of the Statistics Act, 1918 (8-9, George V, Chap. 43) by means of questionnaires or schedules sent by mail to all central electric stations. None of the data is collected by officials of the Bureau going into the field, but all schedules are examined and revised by the Bureau's staff and missing data or corrections are secured by correspondence.

For the purpose of the census, central electric stations are defined as companies, municipalities or individuals selling or distributing electric energy whether generated by themselves or purchased for resale. The stations are divided into two classes according to ownership, viz., (a) commercial, those operated by companies or individuals, and (b) municipal, those operated by municipal, provincial or federal governments. The stations are also divided according to operation into (a) generating, those stations generating power which they sell; many of them also purchase power to supplement their own output, and (b) non-generating, those stations which purchase all the power they sell. In this second class there were 13 stations which were holding generating equipment classed as auxiliary plant equipment. Ten of them purchased all their electric energy and the remaining three generated only 1,344,000 kilowatt hours. This explains the rather anomalous item in table 14 showing the output of non-generating stations.

Included in these statistics are those of some stations engaged primarily in other industries, such as mining, manufacturing of pulp and paper, etc., which sell surplus power. For such plants, the statistics pertaining to the central electric station phase of the industry have been segregated as accurately as possible.

An explanation of what is included in each of the tables and what each item covers will be given later when discussing table 3 to 15 inclusive.

The growth of the industry as indicated by the output has been rapid and fairly steady. In 1920 the output was 5,894,867,000 kilowatt hours, and in 1928 it has increased by 177 per cent and only one of these nine years showed a decrease viz., 1921, when the output was 5 per cent less than that generated the previous year; but in 1922, 1923, 1926 and 1927 yearly increases of 20 per cent were made as shown in the table below. The large increase in output of municipal stations and the decrease in output of commercial stations in 1923 were partly the result of the acquisition of the system of the Toronto Power Company by the Hydro Electric Power Commission of Ontario.

OUTPUT OF CENTRAL ELECTRIC STATIONS
(Thousands of Kilowatt Hours)

Year	Increase over previous year (Per cent)	Total	Commercial stations	Municipal stations
1928.....	12	16,337,804	11,460,974	4,876,830
1927.....	20	14,549,099	9,944,422	4,604,677
1926.....	20	12,093,445	7,797,480	4,295,965
1925.....	9	10,110,459	6,527,103	3,583,356
1924.....	15	9,315,277	6,024,312	3,290,965
1923.....	20	8,099,192	5,074,120	3,025,072
1922.....	20	6,740,750	5,119,676	1,621,074
1921.....	-5	5,614,132	4,316,272	1,297,860
1920.....	7	5,894,867	4,456,428	1,438,439
1919.....		5,497,204	4,191,223	1,305,981

Electricity is exported from Canada only by license granted by the Electricity and Gas Inspection Service of the Department of Trade and Commerce and the same branch of the department has jurisdiction over the export duty which has been imposed since April 1, 1925. During the fiscal year ended March 31, 1929, the export duty amounted to \$351,108, as against \$373,676 for

the previous year. The rate is three one-hundredths of one cent per kilowatt hour on electric energy exported with certain exports excepted. Below is a table showing the quantities of power produced for export by each company and the total quantity generated by each for the calendar year 1928, the outputs shown being for the exporting stations only of these organizations. The Hydro-Electric Power Commission's export data included 437,165,000 kilowatt hours and the Canadian Niagara Power Company's exports included 185,900 kilowatt hours of surplus power. The data for this table were compiled from the annual reports of the Director of the Electricity and Gas Inspection Services.

KILOWATT HOURS PRODUCED FOR EXPORT TO UNITED STATES IN 1928 AND OUTPUT OF EXPORTING STATIONS

Company	*Kilowatt hours produced for export	Total output
		Kilowatt hours
Hydro Electric Power Commission of Ontario.....	391,225,900	3,284,232,600
Hydro Electric Power Commission of Ontario (Surplus).....	437,165,000	437,165,000
Jedarr Rapids Manufacturing & Power Company.....	415,162,098	893,338,116
Canadian Niagara Power Company.....	357,740,446	621,424,308
Canadian Niagara Power Company (Surplus).....	185,900	185,900
Western Power Company of Canada.....	255,570	235,388,300
Ontario and Minnesota Power Company.....	18,177,000	23,150,004
Maine & New Brunswick Electric Power Company.....	9,695,590	12,530,000
British Columbia Electric Railway Company.....	851,086	143,216,400
West Kootenay Power and Light Company.....	536,800	516,997,700
Maritime Electric Company.....	733,223	2,247,832
Southern Canada Power Company.....	951,061	11,818,450
International Electric Company.....	93,860	253,533
Traser Companies.....	2,097,600	27,852,100
Total.....	1,634,871,134	6,209,800,243

*The difference between the amount produced for export and the quantity exported shown in Appendix A is the line loss between the generating station and the point of export.

TABLE 1.—COMPARATIVE SUMMARY, 1920-1928

The more important data of tables 3 to 15 are presented in table 1 for the nine years, 1920-1928, to facilitate comparisons and to show the fluctuations and growth. The greatest increase in these data during this period was in the output which was 177 per cent larger for 1928 than for 1920, whereas total capital increased by 113 per cent, the main plant primary power by 143.9 per cent and total revenues increased by 110 per cent. In other words, per kilowatt hour of output, the industry has reduced the average investment between 1920 and 1928 by 23 per cent, reduced average revenues by 24 per cent and the average primary power in main plants by 12 per cent. The large increases in municipal stations, as compared with increases in commercial stations, in capital, revenue and output were largely due to the acquisition of commercial systems in Ontario by the provincial system and to extensions of the provincial system. In 1928 the capital of Ontario municipal stations was over 80 per cent of the total capital of all municipal stations in Canada.

The pulp and paper industry has been an important factor in the growth of the central electric stations. A few large stations sell almost their entire output to pulp and paper mills and the motors in all pulp and paper mills which were operated on power purchased from central electric stations in 1928 had a rating of 859,017 horse power, or 36 per cent of the total of all motors in Canadian manufacturing industries and mines which were operated on purchased power. Since 1920 these motors in the pulp and paper mills have increased by 520 per cent and on account of operating approximately 24 hours each day as against 10 to 12 hours per day for the majority of other manufacturing industries, their consumption was even more important than their rating would indicate. Also, for several years the pulp and paper mills have purchased large quantities of surplus and off-peak power for use in electric boilers. The rates charged for such surplus power are very low, but the revenue assists to carry capital charges until more remunerative markets develop.

The largest increase in capital was shown in 1927 with 1925 second and 1928 third. In output 1927 also showed the largest increase with 1926 second and 1928 third, but the greatest number of customers was added in 1924 with 1928 second and 1922 third.

TABLE 2.—SUMMARY OF PRINCIPAL DATA, 1927-1928

The increase during the year in capital amounted to \$90,094,318 and the total of \$956,919,603 was a larger investment than for any other manufacturing industry. Over 95 per cent of this increase was made by commercial stations which showed an increase of \$86,839,435. By far the largest increase was in the province of Quebec, where \$63,170,036 was added, with New Brunswick following with an addition of \$11,761,337, which more than doubled the investment in that province. The principal additions in Quebec were made by the Gatineau Power Company which completed its plant at Paugan Falls on the Gatineau river with 6 units of 34,000 horse power each with provision for 2 additional units to be added in the future. A 220 K.V. transmission line was completed from this plant to Toronto, 230 miles in length, to transmit 25 cycle power to the Ontario Hydro Electric Power Commission which will ultimately take 260,000 horse power over this and a duplicate line now being constructed. The Commission and the Gatineau Power Company also constructed a 110 K.V. and 44 K.V. line to transmit 60 cycle power from the Farmers Rapids and Chelsea plants on the Gatineau river, Quebec, through to Kingston and Brockville, Ontario. The contract called for 6,000 horse power at the beginning, to increase to 100,000 horse power. The Gatineau Power Company also completed the Mercier dam under the supervision of the Quebec Streams Commission to regulate the flow on the Gatineau river, were adding one 25,000 horse power unit to their Bryson plant and built a 110 K.V. line from this plant to Hull. The Shawinigan Water and Power Company added Number 7 unit of 43,000 horse power to its Number 2 plant on the St. Maurice river and also was working on Number 8 unit of the same size. This company also secured from the province the rights to develop the power on the upper St. Maurice river. The total power will be around 1,000,000 horse power and the contract calls for an expenditure of at least \$25,000,000, of which \$10,000,000 must be expended and 100,000 horse power developed by July, 1933. The Quinze Power Company added 2 units of 10,000 horse power each and the Duke Price Power Company added a unit of 45,000 horse power to its Isle Maligne plant. The Montreal Island Power Company had well under way a development of some 104,000 horse power on Riviere des Prairies near Montreal but none of the capital of this project was included in these statistics nor were included any data of the James MacLaren company's development on the Lievre river with an initial installation of 90,000 horse power which was also under way. The large increase in New Brunswick was the Grand Falls development which will ultimately include four units of 20,000 horse power each. Only one unit was in operation in 1928 but this almost doubled the hydraulic capacity for the province. Up to 1928 there have been no hydraulic stations in Saskatchewan, but during the year work was started on a development at Island Falls on the Churchill river by the Churchill River Power Company to provide power primarily for the Flin Flon and Sherritt Gordon mines. Complete details of hydro electric developments are included in the report "Hydro-Electric Progress in Canada" issued annually by the Water Power and Reclamation Service, Interior Department.

TABLE 3.—POWER PLANTS

The definition of a central electric station as adopted for census purposes was given at the beginning of this report, and, according to this definition, the number of commercial and municipal organizations selling electric energy would be the number of stations. Some organizations, operate several systems which are in different municipalities and which are not connected by transmission

lines, and in other cases, many municipalities are served from one power plant. The organizations reporting are counted as they report. If a commercial organization makes a separate report for each of its subsidiary companies, each such subsidiary company is counted, and if it includes them all in one report, they are counted as only one organization. The nature of control is so varied that it is not practicable to do otherwise. The power plants shown in this table are individual plants, counted irrespective of ownership or location. In some cases two or more of these are operated by one company, some of them being close together, and others miles apart.

The net decrease in the number of power plants operated was 28, the largest decrease being 9 in British Columbia and the largest decrease being 26 in Alberta.

During the year the net reduction in the number of organizations producing electric energy for sale was 97, which was effected largely through the acquisition of small plants by larger organizations. These consolidations provide in most cases interconnection of power plants which make possible a better load factor and better utilization of equipment and also a more reliable source of power for consumers. During the year 79 small plants in Alberta and Saskatchewan were acquired by some 5 companies; in some cases the old plants were retained, but in the majority of cases they were dismantled and energy supplied from larger plants over transmission lines linking up several municipalities. Also during the year the Saskatchewan Power Commission made a report recommending the purchase of the municipal plants at Regina, Moose Jaw and Saskatoon to form the nucleus of a provincially operated system, and, as a first step in this direction, the Saskatchewan government entered into negotiations with Saskatoon for the purchase of the plant belonging to that city. In Quebec, 4 large companies and their subsidiaries took over 25 organizations and mergers of less extent occurred in other provinces. Of the total output, 17 large organizations generated over 90 per cent and the largest, the Ontario Hydro Electric Power Commission, generated 25 per cent, which gives a fair indication of the nature of control of the industry in Canada.

TABLE 4.—CAPITAL

The capital employed in the industry is reported under four heads, viz., generation, transmission, distribution, and general. Generation includes investments in power houses and sites, dams, penstocks, flumes, storage and regulating structures, surge tanks, storage basins, etc., and equipment in power houses, except step-up transformers or other transmission equipment. Transmission includes investments in receiving stations and sites, rights of way of transmission lines and step-up transformers. Distribution includes investments in substations and sites and rights of way of distribution lines, switchboards and step-down transformers in receiving stations and substations, distribution lines, line transformers, meters, etc. General includes investments in office buildings, sites and structures, materials and supplies on hand cash, trading and operating accounts and bills receivable. The total represents the capital employed in the industry. The capital is the total, as at December 31, of stations operating, and does not include any investments by new organizations not yet operating but does include expenditures by organizations operating plants, which have been made for future installations of equipment. Consequently the averages per horse power and per K.V.A. are increased by the inclusion of such capital. This is possibly the explanation of the increase in the average per K.V.A. including auxiliary equipment; for example, in Quebec from \$195 in 1925 to \$212 in 1928, and it is probable that when equipment to the total designed capacity of the plants recently constructed is installed these averages will be decreased. The averages of investment per mile of distribution and transmission line are more indicative of the different types of lines in each province than of comparative costs of the same types.

TABLE 5.—REVENUE

The revenue is reported under two heads, (a) revenue received from the sale of electricity for lighting purposes, and (b) revenue received from the sale of electricity for power purposes and to other stations for resale. The stations are asked to make this division and to estimate it where it is impossible to make the division accurately. There are large quantities of electricity interchange between stations, some of it passing through three stations before reaching the consumer. It is quite evident that the total revenue reported by the stations would contain considerable duplication. The gross revenue of an individual station has some significance, but the gross revenue of a group of stations including large sums of money which are payments of some of the stations of the group to other stations of the same group, is only confusing unless the amount of duplication of revenue is evident. For this reason the gross revenues are not shown in this report and all references to revenues are to net revenues. The net revenues are the total revenues reported by stations less the amounts paid for power interchanged between stations and consequently are the amounts paid by the consumers.

The revenues for the year amounted to \$112,326,819, which was an increase over the 1927 revenues of \$8,293,522, or 8 per cent. The average revenue per kilowatt hour generated was 6.9 mills as against 7.2 mills for 1927. The Quebec stations showed the lowest average of only 4.7 mills. Manitoba stations were next with 5.6 mills and Ontario stations third with 7.9 mills. These averages are for electricity generated, including the line and transformer losses which run as high as 25 per cent on some systems with extensive transmission lines, and not for the current as measured at the consumers' meters. They are also affected by the quantity of power sold to large customers, especially to customers operating 24 hours each day, and off-peak and surplus power sold to pulp mills. These averages should not be considered the cost of electric energy to customers, nor even as reflecting the relative cost except in a very broad way. On account of the unit cost varying with the nature of the load and also with the size of the load and the consumption, the only accurate method of comparing costs in different provinces or municipalities is to compare the cost of specific loads and specific consumptions. The average revenue per power customer was \$2,365 in Quebec, \$1,720 in Ontario, \$1,330 in British Columbia, \$894 in New Brunswick, \$765 in Prince Edward Island, \$587 in Nova Scotia, \$579 in Manitoba, \$428 in Alberta, and \$411 in Saskatchewan. These averages, however, give only a very rough idea of the relative sizes of the average power loads and the number of kilowatt hours consumed per customer, as due to the system of decreasing the unit price as the load and consumption increase, the spreads between the average consumptions per power customer would be much greater than the spreads between these average power bills.

TABLE 6.—EXPENSES

The expenses, amounting to \$62,330,860, included only the four items of salaries and wages, fuel, taxes, and cost of power, the last being an inter-industry expense incurred entirely by the method of distribution. Over 62 per cent of this total cost of power was paid by Ontario stations, mainly by the municipalities buying power from the provincial commission. Salaries and wages increased by \$1,141,105 and taxes were greater by \$462,020. The cost of power amounting to \$31,365,636, was deducted from the gross revenues reported by the stations in computing the revenues shown in table 5.

TABLE 7.—EMPLOYEES

Stations are required to report all employees with their total salaries and wages and where an employee is engaged in other occupation, such as a mar

working for the electric light department and the water works department of a municipality, allowance is made for his part time. The number of employees on wages is the monthly average and consequently gives weight to seasonal employees. The number of employees increased by 1,147, or 7·8 per cent, for an increase in the pay roll of 5 per cent. In commercial stations the increase was 1,024, including increases of 364 in Quebec stations, 118 in Ontario, 195 in Manitoba, 120 in Saskatchewan, 143 in Alberta and smaller increases in the other provinces. In municipal stations the total increase was 123 employees.

TABLE 8.—CUSTOMERS

Customers are divided into three classes, viz., domestic light—persons buying electricity for lighting residences; commercial light—purchasers of electricity for lighting stores, offices, factories, public buildings, etc., and power—purchasers of electricity for operating machinery or commercial heating purposes. Some stations have separate meters and make separate charges for domestic water heating, electric refrigerators or other services in residences and for lighting, but the instructions are to report each residence or household buying electricity as one domestic light customer, irrespective of the number of meters or services. Thus, these statistics are on the same basis for each station even where the methods of metering or billing are different. The methods of selling electric energy for commercial lighting and power are more or less the same with all stations, although some stations have the same rates for both domestic and commercial lighting and estimated the division between the two classes.

The number of customers amounted to 1,464,005, as against 1,381,968 for 1927. This increase of 82,037 included 64,945 domestic light, 16,297 commercial light and 795 power customers. Commercial stations served 46 per cent of the total customers, 45 per cent of domestic light customers, 51 per cent of commercial light customers and 49 per cent of the power customers, but produced 70 per cent of the output, indicating that the average consumption per customer of commercial stations was very much higher than the average of municipal station customers. The average number of domestic light customers per 100 population, using the Bureau's estimate for the 1928 population, was 12·50 for Canada with British Columbia showing the highest provincial density of 19·57. Ontario was second with 16·01, Quebec third with 13·00, and Manitoba fourth with 11·00. Alberta, Nova Scotia and New Brunswick were close with averages of 8·29, 7·04 and 6·97, respectively, and Saskatchewan and Prince Edward Island had 4·35 and 3·73 domestic light customers per 100 population. The difference in the sizes of households will affect these averages. Using the 1921 average number of persons per household gives the following number of domestic light customers per 100 households: British Columbia, 77·8; Quebec, 68·3; Ontario, 67·9; Manitoba, 51·4; New Brunswick, 34·8; Alberta, 33·8; Nova Scotia, 33·7; Saskatchewan, 19·2; Prince Edward Island, 17·6; and Canada, 17·1. The concentration of population in the large cities is undoubtedly the chief factor in the high averages.

TABLE 9.—POLE LINE MILEAGE

The pole line mileage is divided into two divisions, (a) transmission, which includes lines from power houses to receiving stations, and (b), distribution, which includes lines from receiving stations to substations and to customers and, where the power is not stepped up in any power house for transmission, all the pole line mileage of that system is included with the distribution mileage. These mileages are counted irrespective of the number of circuits carried on the poles and towers.

The pole line mileage of transmission lines increased by 2,081 miles, or 17 per cent, and of distribution lines by 1,679 miles, or 8 per cent. The largest provincial increase was in Ontario with increases of 185 miles of transmission and

1,309 miles of distribution line. Alberta showed an increase of 993 miles of transmission pole lines, Saskatchewan showed 382 miles of transmission line for the first time and an increase of 133 miles of distribution line and Quebec stations showed a net increase in transmission line of 519 miles.

TABLES 10-11-12.—EQUIPMENT

The equipment of the power houses has been divided into two classes, main plant and auxiliary, or standby equipment. The auxiliary plant equipment includes all steam engines and turbines and internal combustion engines and dynamos driven by them in hydro-electric stations and all the equipment in non-generating stations. All other equipment is classed as main plant equipment and includes water wheels and turbines and generators driven by them in hydro-electric stations and all equipment in plants using fuel only. It is quite possible that some of the fuel stations have equipment held as standby equipment for use only in emergencies or for occasional peaks and also that some hydraulic stations have hydraulic equipment similarly held, but it is all classified as main plant equipment. Although a few of the hydro-electric stations use their steam equipment more or less regularly during periods of low water and during periods of heavy demand, the greater part of it is held strictly in reserve for emergencies.

The net addition of 14,186 horse power to primary equipment in auxiliary plants included 14,650 horse power of the steam plant of the city of Calgary. This plant was leased by the Calgary Power Company during 1928 and consequently transferred in these statistics from main plant to auxiliary plant. The increase in main plant of 454,318 horse power during the year included increase of 305,575 horse power in Quebec, 63,252 horse power in British Columbia, 56,265 horse power in Manitoba, 20,061 horse power in New Brunswick, 15,461 horse power in Ontario and smaller increases in the other provinces except Alberta where a decrease of 13,427 horse power was shown. This net decrease was caused almost entirely by the transfer of 14,650 horse power from municipal main plant in 1927 to commercial auxiliary plant, as explained above. This also explains in part the decrease in total horse power of municipal stations of 16,977 horse power. As mentioned under table 3, there was a large number of plants, both municipal and commercial, in Alberta, Saskatchewan and Quebec which were acquired by commercial organizations and these transfers from municipal stations more than offset additions including new municipal plants added during the year. Water wheels and turbines showed an increase of 470,519 horse power and gas and oil engines in main plant an increase of 1,769 horse power, but in main and auxiliary plants reciprocating steam engines decreased by 4,092 horse power and steam turbines decreased by 371 horse power.

TABLE 13.—MAIN PLANT EQUIPMENT CLASSIFIED

The rating of water wheels, engines and dynamos used in these statistics is the manufacturers' rating, except where the stations have found from operation that the rating is different and have reported ratings which are averages for normal operating conditions. During the year 12 large hydraulic turbines with capacities of 25,000 horse power or over were installed, 8 in Quebec, 2 in Manitoba and 2 in British Columbia. These wheels accounted for 398,000 horse power of the total net increase of 470,519 horse power for all sizes of wheels. The number of small wheels (under 500 h.p.) decreased from 220 of 40,271 horse power to 187 of 33,126 horse power. Also, the number and total capacity of D. C. dynamos decreased from 311 of 9,728 K.W. to 277 of 7,295 K.W. Although internal combustion engines decreased 33 in number, they increased in total capacity by 1,769 horse power. Reciprocating steam engines, both under and over 500 horse power, showed decreases in both number and total capacity. Since 1920 steam turbines in main and auxiliary plant have shown an increase of only 68,927 horse power, or 33.7 per cent, as against an increase of 2,691,400 horse power, or 153.4 per cent, in water wheels and turbines.

TABLE 14.—ELECTRIC ENERGY GENERATED

The electric energy generated is the output at the power plants less power used for the operation of the plants, and consequently includes all transformer and line losses entailed in delivering power to the consumers. All the large stations meter their output and for those stations which have no watt hour meters, the kilowatt hours are estimated as best possible. The K.V.A. capacities shown were the rated dynamo capacities at the close of the year of both main and auxiliary plant of generating stations, but the ratios of output to maximum capacities were computed from the kilowatt hours generated and the rated capacities of dynamos multiplied by the number of hours during the year they were available. Thus, the maximum capacity of a 1,000 K.V.A. dynamo for a year would be 8,760,000 kilowatt hours but, if installed on November 30, its maximum capacity would be only 744,000 kilowatt hours. Consequently these ratios are directly comparable for each year irrespective of when large additions are made to the generating capacity of the industry and the rising and falling of the ratios indicate the relative position of the supply to the demand on a kilowatt hour basis. As stated previously, the ratio of output to maximum capacity of 51.2 per cent for the industry as a whole was the highest attained in any year since the census has been taken. In computing this ratio all plants were included; some small plants operate on a ratio as low as 3 per cent. The large stations, however, produce by far the greater part of the output and some of these stations, especially those operating primarily to supply power to pulp and paper mills, had ratios as high as 65 per cent.

Quebec stations continued to lead in the number of kilowatt hours generated, producing 7,682,425,000 kilowatt hours, or 47 per cent of the total for Canada, and Ontario stations produced 6,064,031,000 kilowatt hours, or 37 per cent of the total. New Brunswick, however, showed the highest ratio of increase during the year, viz., 39 per cent. Manitoba was second with 20 per cent, Quebec third with 17.7 per cent and Ontario showed the smallest ratio of 4.7 per cent. The large hydro electric stations making monthly reports to the Bureau reported an output by their fuel auxiliary equipment of 23,963,000 kilowatt hours, which makes the output from water power 16,081,742,000 kilowatt hours, or 98.4 per cent of the total. Although the fuel stations produced only 1.4 per cent of the total output, they serve an important function in municipalities remote from water power or transmission lines of hydro electric stations. The small plants, especially with oil and gasoline engine units, also perform a pioneer work in building up markets which often are later absorbed by larger plants.

TABLE 15.—FUEL

The fuel data in this table include those of auxiliary plants to hydraulic stations and also those of fuel stations. The total fuel bill was \$2,280,405, as against \$2,302,817 for 1927. The largest decrease was shown in Alberta where the total was less by \$102,035, and the only increases shown were \$107,363 in Saskatchewan, where the output by fuel stations increased by 13,368,000 kilowatt hours, and \$1,849 in Manitoba.

Table 1—Comparative Summary, 1928-1920

Principal Data by Class of Station Données principales par classes d'usines	1928	1927	1926	1925	1924
Electric Power Plants—					
Total	601	629	595	563	551
Hydraulic.....	300	302	294	284	279
Fuel.....	301	327	301	279	284
Commercial.....	428	432	393	365	351
Municipal.....	121	197	202	198	184
Capital—					
Total	956,919,603	866,825,285	756,220,066	726,721,087	628,565,011
Commercial.....	614,910,399	528,070,964	430,817,426	409,802,801	326,554,501
Municipal.....	342,009,204	338,754,321	325,402,640	316,858,286	302,010,510
Generating.....	835,422,031	750,703,270	647,850,154	625,970,883	552,016,111
Non-generating.....	121,497,572	116,122,015	108,369,912	100,750,204	96,548,900
Revenue¹—					
Total	112,326,819	104,033,297	88,933,733	79,341,584	74,616,801
Commercial.....	64,575,700	59,320,175	47,911,555	42,195,543	39,033,061
Municipal.....	47,751,119	44,713,122	41,022,178	37,146,041	35,583,110
Generating.....	92,722,293	86,369,058	72,123,290	63,547,553	59,861,911
Non-generating.....	19,604,526	17,664,239	16,810,443	15,794,031	14,754,900
Expenses²—					
Total	62,330,860	60,169,781	52,766,799	47,635,531	40,887,711
Commercial.....	30,961,337	28,704,496	24,622,619	21,325,649	16,777,511
Municipal.....	31,369,523	31,465,285	28,144,180	26,309,882	24,110,211
Generating.....	33,837,618	31,920,941	27,655,269	24,857,279	20,198,211
Non-generating.....	28,493,242	28,248,840	25,111,530	22,778,252	20,689,511
Pole Line Mileage—					
Total	37,333	33,573	29,695	27,653	26,611
Commercial.....	18,875	16,747	14,257	13,047	12,111
Municipal.....	18,458	16,826	15,438	14,606	14,511
Generating.....	25,524	23,246	20,005	18,372	17,311
Non-generating.....	11,809	10,327	9,690	9,281	9,311
Customers—					
Total	1,464,005	1,381,968	1,337,562	1,279,731	1,200,911
Domestic light.....	1,207,457	1,142,512	1,110,637	1,063,530	989,511
Commercial light.....	215,728	199,431	188,553	180,994	176,411
Power.....	40,820	40,025	38,372	35,207	34,911
Commercial stations.....	677,223	622,823	584,760	559,172	521,011
Municipal stations.....	786,782	759,145	752,802	720,559	679,811
Generating.....	728,872	699,874	680,717	653,032	610,211
Non-generating.....	735,133	682,094	656,845	626,699	590,711
Electric Energy Generated—					
Total Kilowatt Hours (Thousands)	16,337,804	14,519,099	12,093,445	10,110,459	9,315,211
Commercial.....	11,460,974	9,944,422	7,797,480	6,527,103	6,024,311
Municipal.....	4,876,830	4,604,677	4,295,965	3,583,356	3,290,911
Equipment in generating stations (Main Plant only)					
Total primary power H.P.	4,627,667	4,173,349	3,769,323	3,562,527	2,849,411
Water wheels and turbines..... No.	749	759	730	716	611
..... H.P.	4,445,531	3,975,012	3,609,385	3,416,018	2,707,911
Steam reciprocating engines..... No.	115	134	151	147	111
..... H.P.	29,206	33,788	36,386	31,230	33,811
Steam turbines..... No.	56	61	47	43	31
..... H.P.	131,295	144,683	103,847	101,457	90,611
Internal combustion engines..... No.	366	399	341	306	211
..... H.P.	21,635	19,866	19,705	17,822	17,011
Total in commercial stations..... H.P.	3,268,350	2,797,055	2,423,244	2,243,318	1,701,711
Total in municipal stations..... H.P.	1,359,317	1,376,294	1,346,079	1,326,209	1,147,611
Total secondary power K.V.A.	3,784,331	3,385,227	2,995,387	2,844,709	2,282,011
Dynamos, A.C..... No.	994	1,008	977	935	811
..... K.V.A.	3,757,036	3,375,499	2,985,935	2,835,742	2,273,411
Dynamos, D.C..... No.	277	311	249	231	211
..... K.W.	7,295	9,728	9,452	8,967	8,511
Total in commercial stations K.V.A.	2,690,697	2,297,005	1,938,018	1,803,545	1,401,411
Total in municipal stations K.V.A.	1,074,234	1,088,222	1,057,359	1,041,164	880,511

¹ Duplications excluded.² Includes wages, cost of power, and fuel for 1928-1920 and for 1928-1925 taxes, but not other expenses.

Tableau 1—Résumé comparatif 1928-1920

1923	1922	1921	1920	Per cent increase 1928 over 1920	
				Pourcentage d'augmenta- tion de 1928 sur 1920	
532	522	510	506	18.8	Usines Électriques—
269	269	259	258	16.3	Total.
263	253	251	248	21.4	Hydrauliques.
335	326	317	321	33.3	A combustible
197	196	193	185	-6.5	Commerciales.
					Municipales.
581,780,611	568,068,752	484,669,451	448,273,642	113.5	Capitaux—
307,046,240	326,448,922	327,439,827	311,160,342	97.6	Total.
274,734,371	241,619,830	157,229,624	137,113,300	149.4	Commerciales.
489,085,939	484,635,750	410,382,619	380,872,831	119.6	Municipales.
92,694,672	83,433,002	74,286,832	67,900,811	78.9	Productrices.
					Non-productrices.
67,496,893	62,173,179	58,271,622	53,436,082	110.2	Recettes ¹ —
37,040,835	37,894,341	37,000,661	34,989,563	84.6	Total.
30,456,058	24,278,838	21,270,961	18,446,519	158.9	Commerciales.
52,681,003	48,102,723	46,404,540	43,790,032	111.7	Municipales.
14,815,890	14,070,456	11,867,082	9,646,050	103.2	Productrices.
					Non-productrices.
41,067,329	37,327,493	33,364,566	30,085,903	-	Dépenses ² —
15,319,394	14,704,651	14,175,563	13,815,274	-	Total.
25,747,535	22,622,842	19,189,003	16,270,629	-	Commerciales.
20,992,105	19,304,835	18,078,155	16,645,033	-	Municipales.
20,075,224	18,022,658	15,286,411	13,440,870	-	Productrices.
					Non-productrices.
23,560	22,669	21,714	20,879	78.8	Lignes sur poteaux—
11,146	11,123	10,987	10,721	76.1	Total.
12,414	11,546	10,727	10,158	81.7	Commerciales.
14,405	13,927	13,460	13,651	87.0	Municipales.
9,155	8,742	8,254	7,228	63.4	Productrices.
					Non-productrices.
1,112,547	1,053,545	973,212	894,158	63.7	Abonnés—
920,223	889,346	830,062	764,907	57.9	Total.
159,929	164,199	143,150	129,251	66.9	clairage domestique.
32,395	-	-	-	-	Eclairage commercial.
496,591	476,285	466,235	437,672	54.7	Force motrice.
615,956	577,260	506,977	456,486	72.4	Commerciales.
547,928	533,923	531,643	504,026	44.6	Municipales.
564,619	519,622	441,569	390,132	88.4	Productrices.
					Non-productrices.
8,099,192	6,740,750	5,614,132	5,894,867	177.1	Energie Électrique produite—
5,074,120	5,119,676	4,316,272	4,456,428	157.2	K.W. Heures produites (milles)—
3,025,072	1,621,074	1,297,860	1,438,439	239.0	Commerciales.
					Municipales.
2,423,845	2,258,398	1,977,857	1,897,024	143.9	Machineries dans les usines productrices
641	629	604	594	26.1	(Machines des usines principales)—
2,282,547	2,112,289	1,826,357	1,754,130	153.4	Total force motrice primaire..... H.P.
159	175	187	196	-41.3	Turbines et roues hydrauliques..... N°
37,116	40,484	45,450	49,430	-40.9	Machines à vapeur..... H.P.
38	41	43	37	51.4	Turbines à vapeur..... N°
87,767	89,545	90,705	80,750	62.6	Moteurs à gaz et à pétrole..... N°
262	225	203	179	104.5	Total dans les usines commerciales... H.P.
16,415	16,080	15,345	12,714	70.2	Total dans les usines municipales.... H.P.
1,451,498	1,565,229	1,443,533	1,415,488	130.2	
972,347	693,169	534,324	481,536	182.3	
1,861,845	1,736,199	1,475,610	1,451,829	159.3	Total force motrice secondaire..... K.V.A.
860	857	841	817	21.7	Dynamos, C.A..... N°
1,852,396	1,725,831	1,464,022	1,439,937	160.9	Dynamos C.D..... K.V.A.
208	181	172	165	67.9	Total dans les usines commerciales.... K.V.A.
9,449	10,368	11,588	11,892	-38.7	Total dans les usines municipales..... K.V.A.
1,140,945	1,210,947	1,086,128	1,078,611	149.4	
720,900	525,252	389,482	373,218	187.8	

¹ Les doubles emplois exclus.² Comprend gages, coût de la force motrice et du combustible en 1928 et 1920 et les taxes pour 1928-1925, mais pas d'autres dépenses.

CENSUS OF INDUSTRY

Table 2—Summary of Principal Data, 1928-1927

	Total		Commercial Commerciales		Municipal Municipales	
	1928	1927	1928	1927	1928	1927
	1	2	3	4	5	6
Total Number of Electric Power Plants...	601	629	428	432	173	197
No. of hydraulic plants.....	300	302	218	221	82	81
No. of fuel plants.....	301	327	210	211	91	116
Total capital.....	956,919,603	866,825,285	614,910,399	528,070,964	342,009,204	338,754,321
Lands, buildings, equipment, etc.....	901,570,518	809,224,642	578,383,626	498,410,621	323,186,892	310,814,021
Materials on hand, cash trading accounts etc.	55,349,085	57,600,643	36,526,773	29,660,343	18,822,312	27,940,300
Total Net Revenue from Sale of Electric Energy.....	112,326,819	194,033,297	64,575,700	59,320,175	47,751,119	44,713,122
For lighting purposes.....	50,301,456	45,832,886	—	—	—	—
For all other purposes.....	62,025,363	58,200,411	—	—	—	—
Expenses.....	62,330,866	60,169,781	39,961,337	28,704,486	31,369,523	31,465,285
Salaries and wages.....	24,087,420	22,946,315	11,860,740	9,839,682	12,226,680	13,106,633
Fuel.....	2,280,405	2,302,817	1,038,669	981,483	1,241,736	1,321,334
Cost of power.....	31,365,636	30,785,270	13,881,485	14,113,722	17,484,151	16,671,548
Taxes.....	4,597,399	4,135,379	4,180,443	3,769,609	416,956	365,770
Total Number of Employees.....	15,855	14,708	8,188	7,164	7,667	7,544
Total Mileage of Pole Lines.....	37,333	33,573	18,875	16,747	18,458	16,826
For transmission.....	14,372	12,291	9,058	7,484	5,314	4,807
For distribution.....	22,961	21,282	9,817	9,263	13,144	12,019
Total Number of Customers.....	1,464,005	1,381,968	677,223	622,823	786,782	759,145
Domestic light.....	1,207,457	1,142,512	547,949	505,394	659,508	637,118
Commercial light.....	215,728	199,431	109,219	97,246	106,509	102,185
Power.....	40,820	40,025	20,055	20,183	20,765	19,842
Total K. W. Hours Generated (Thousands).	16,337,804	11,549,099	11,460,974	9,944,422	4,876,830	4,604,677
Total Power (excluding Auxiliary Plant Equipment)						
	Total		Commercial Commerciales		Municipal Municipales	
	1928	1927	1928	1927	1928	1927
	1	2	3	4	5	6
Total Primary Power..... H.P.	4,627,667	4,173,349	3,268,350	2,797,055	1,359,317	1,376,294
Water wheels and turbines..... No.	749	759	545	557	204	202
H.P.	4,445,531	3,975,012	3,207,672	2,741,278	1,237,859	1,233,734
Steam reciprocating engines..... No.	115	134	62	70	53	64
H.P.	29,206	33,788	15,682	17,396	13,524	16,392
Steam turbines..... No.	56	61	24	24	32	37
H.P.	131,295	144,683	31,626	30,731	99,669	113,952
Gas and oil engines..... No.	366	399	278	277	88	122
H.P.	21,635	19,866	13,370	7,650	8,265	12,216
Total Secondary Power..... K.V.A.	3,764,331	3,385,227	2,699,697	2,297,005	1,074,234	1,088,222
Dynamos, A.C..... No.	994	1,008	653	628	341	380
K.V.A.	3,757,036	3,375,499	2,684,637	2,290,325	1,072,399	1,085,174
Dynamos, D. C..... No.	277	311	242	268	35	43
K.W.	7,295	9,728	5,460	6,680	1,835	3,048

Tableau 2—Résumé comparatif des données principales, 1928-1927

Generating — Production		Non-generating — Non-productrices		Per Cent of Column 1 — Pour cent de la 1ère col.				
1928	1927	1928	1927	Com- mer- ciales 1928	Mu- nici- pales 1928	Gene- rating — Prod. 1928	Non Gen. — Non- prod. 1928	
7	8	9	10	11	12	13	14	
601	629	—	—	71-21	28-79	100-00	—	Nombre d'usines génératrices.
300	302	—	—	72-67	27-33	100-00	—	Nombre d'usines hydrauliques.
301	327	—	—	69-77	30-23	100-00	—	Nombre d'usines à combustibles.
835,422,031	750,703,270	121,497,572	116,122,015	64-26	35-74	87-36	12-70	Total des capitaux.
793,693,526	715,449,984	107,876,992	93,774,658	64-15	35-85	88-03	11-97	Terrains, bâtiments, aménagements etc.
41,728,505	35,253,286	13,620,580	22,347,357	65-99	34-01	75-39	24-61	Matières premières en stock, fonds de caisse, créances à recouvrer, etc.
92,722,293	86,369,05	19,604,526	17,664,239	57-49	42-51	82-55	17-45	Total des recettes nettes par l'électri- cité vendue.
—	—	—	—	—	—	—	—	Pour éclairage.
—	—	—	—	—	—	—	—	Pour tous autres usages.
33,837,618	31,920,941	8,493,242	28,248,840	49-67	50-33	54-29	45-71	Dépenses—
16,896,036	14,984,594	7,191,384	7,961,722	49-24	50-76	70-14	29-86	Traitements, appoint. et salaires.
2,279,051	2,297,681	1,354	5,129	45-55	54-45	99-94	-06	Combustible.
10,436,867	10,894,665	20,928,769	19,890,605	44-26	55-74	33-27	66-73	Achat de force motrice électrique.
4,225,664	3,743,995	371,735	391,384	90-93	9-07	91-91	8-09	Impôts.
10,799	9,965	5,056	4,743	51-64	48-36	68-11	31-89	Nombre total du personnel.
25,524	23,241	11,809	10,327	50-56	49-44	68-37	31-63	Long. en milles des lignes sur poteaux.
12,542	11,061	1,830	1,222	63-03	36-97	87-27	12-73	De transmission.
12,982	12,177	9,979	9,105	42-76	57-24	56-54	43-46	De distribution.
728,872	699,874	735,133	682,094	46-26	53-74	49-79	50-21	Nombre total des abonnés des usines.
591,944	575,040	615,513	567,472	45-38	54-62	49-02	50-98	Eclairage, commerçants
114,825	102,526	100,903	96,905	50-63	49-37	53-23	46-77	Eclairage, particuliers.
22,103	22,301	18,717	17,717	49-13	50-87	54-15	45-85	Force motrice.
16,336,460	14,548,975	1,344	124	70-16	29-84	100-00	—	Total des kilowatt-heures produits (milliers).

Etat de la machinerie (à l'exclusion de celles des usines auxiliaires)								Total Power Equipment in Auxiliary Plants		
Per Cent of Cols. 1 & 2 — Pourcent des col. 1 et 2				Per Cent of Totals of Columns 3, 4, 5 and 6 — Pour cent des col. 3, 4, 5 et 6				Machines des usines auxiliaires		
Commercial		Municipal		Commercial		Municipal				
1928	1927	1928	1927	1928	1927	1928	1927	1928	1927	
7	8	9	10	11	12	13	14	15	16	
70-63	67-02	29-37	32-98	100-0	100-0	100-0	100-0	159,233	145,047	Total force motrice primaire, H.P.
72-76	73-39	27-24	26-61	—	—	—	—	—	—	Turbines et roues hydrauliques.nomb.
72-15	68-96	27-85	31-04	98-14	98-0	91-1	89-6	—	—	H.P.
53-91	52-24	46-09	47-76	—	—	—	—	39	39	Machines à vapeur.....nomb.
53-69	51-49	46-31	48-51	0-48	00-6	1-0	1-2	13,828	13,358	H.P.
42-86	39-34	57-14	60-66	—	—	—	—	37	34	Turbines à vapeur.....nomb.
24-09	21-24	75-91	78-76	0-97	1-1	7-3	8-3	141,982	128,965	H.P.
75-96	69-42	24-04	30-58	—	—	—	—	26	18	Moteurs à gaz et à pétrole.....nomb.
61-80	38-51	38-20	61-49	0-41	00-3	0-6	0-9	3,423	2,744	H.P.
71-46	67-85	28-54	32-15	100-0	100-0	100-0	100-0	135,440	121-863	Total force motrice secondaire, K.V.A.
65-69	62-36	34-31	37-64	—	—	—	—	85	76	Dynamos, C.A.....nomb..
71-46	67-85	28-54	32-15	99-8	99-7	99-8	99-7	133,197	120,788	K.V.A.
87-36	86-17	12-64	13-83	—	—	—	—	8	4	Dynamos, C.D.....nomb.
74-85	68-67	25-15	31-33	0-2	0-3	0-2	0-3	2,243	1,075	K.

Table 3—Electric Power Plants, 1928

	Canada	Prince Edward Island — Île du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Power Generating Stations.....	601	11	46	22	98	130
Per cent of total for Canada.....	100.00	1.83	7.65	3.66	16.31	21.63
Commercial.....	428	9	26	15	86	82
Hydraulic.....	218	8	13	6	83	77
Fuel.....	210	1	13	9	3	5
Municipal.....	173	2	20	7	12	48
Hydraulic.....	82	—	15	3	10	43
Fuel.....	91	2	5	4	2	5
With water wheels and turbines.....	300	8	28	9	93	120
With steam engines only.....	62	—	6	6	1	7
With steam turbines only.....	15	—	5	1	1	—
With gas or oil engines only.....	207	2	4	4	2	3
With both steam engines and turbines.....	13	1	2	1	1	—
With both steam and gas or oil engines.....	4	—	1	1	—	—
With both steam turbines and gas or oil engines.....	—	—	—	—	—	—
With steam engines, turbines and gas or oil.....	—	—	—	—	—	—
With alternating current dynamos only..	426	10	41	14	95	121
With direct current dynamos only.....	170	1	4	6	2	9
With both alternating and direct current dynamos.....	5	—	1	2	1	—
Commercial Organizations.....	405	8	36	24	70	79
Number generating power.....	315	7	19	11	45	65
Number buying power for redistribution..	90	1	17	13	25	14
Municipalities*.....	486	2	30	16	35	296
Number generating power.....	131	2	15	7	10	20
Number buying power for redistribution..	355	—	15	9	25	276
AUXILIARY PLANTS.....	51	2	5	4	7	13
To Hydraulic Stations.....	38	2	2	—	7	10
To Non Generating Stations.....	13	—	3	4	—	3

*Organizations operating in two or more provinces are not shown under provinces but are included in total.

Tableau 3—Usines génératrices—Municipalités desservies, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
28	153	55	56	2	Nombre d'usines génératrices.
4-66	25-46	9-15	9-32	0-33	Pourcentage du total pour le Canada.
12	115	39	42	2	Usines commerciales.
2	—	4	24	1	Hydrauliques.
10	115	35	18	1	A combustible.
16	38	16	14	—	Usines municipales.
2	—	1	8	—	Hydrauliques.
14	38	15	6	—	A combustible.
4	—	5	32	1	Avec roues et turbines hydrauliques seulement.
8	7	16	10	1	Avec machines à vapeur seulement.
—	4	2	2	—	Avec turbines à vapeur seulement.
14	139	28	11	—	Avec moteurs à gaz ou à pétrole seulement.
2	3	2	1	—	Avec machines et turbines à vapeur à la fois.
—	—	2	—	—	Avec machines à vapeur, à gaz et à pétrole.
—	—	—	—	—	Avec turbines à vapeur et moteurs à gaz et à pétrole.
—	—	—	—	—	Avec machines à vapeur, turbines et moteurs à gaz et à pétrole.
19	49	30	46	1	Avec dynamos à courant alternatif seulement.
9	104	24	10	1	Avec dynamos à courant direct seulement.
—	—	1	—	—	Avec dynamos à courant alternatif et direct.
15	90	38	39	3	Usines commerciales.
12	88	31	32	2	Nombre d'usines génératrices.
3	2	7	7	1	Nombre d'usines achetant de l'électricité pour la revendre.
21	41	18	25	—	Municipalités.*
13	38	12	13	—	Nombre d'usines génératrices.
8	3	6	12	—	Nombre d'usines achetant de l'électricité pour la revendre.
3	—	6	10	1	USINES AUXILIAIRES.
3	—	5	9	—	Usines hydrauliques.
—	—	1	1	1	Usines non génératrices.

*Les organisations en exploitation dans deux provinces au plus ne figurent pas sous les provinces, mais sont comprises dans le total.

Table 4—Capital, 1928

	Canada	Prince Edward Island Ile du Prince- Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau- Brunswick	Quebec	Ontario
Total Capital	956,919,603	700,185	14,130,973	22,181,342	371,750,195	396,344,873
Per cent of total for Canada.....	100.00	0.07	1.48	2.32	38.85	41.42
Generation.....	585,205,845	414,298	7,360,985	16,555,827	266,319,888	215,460,425
Transmission.....	141,652,728	—	2,475,899	1,596,541	44,703,425	72,056,233
Distribution.....	167,515,812	242,381	3,168,209	2,835,075	37,039,613	85,971,516
General.....	62,545,218	43,506	1,125,880	1,193,899	23,687,269	22,856,699
Total Capital in Commercial Stations	614,910,399	595,833	7,429,371	16,654,890	364,824,054	114,495,563
Generation.....	421,810,585	361,932	2,814,438	13,908,272	262,989,851	79,724,612
Transmission.....	76,123,592	—	1,497,018	499,698	44,493,424	13,342,127
Distribution.....	74,756,799	202,068	2,302,842	1,291,341	33,992,038	14,100,206
General.....	42,213,423	31,833	815,073	955,579	23,348,741	7,328,6
Non-generating stations.....	35,689,673	6,800	621,074	1,023,175	12,642,264	3,757,530
Generating stations.....	579,220,726	589,033	6,808,297	15,631,715	352,181,790	110,738,033
Hydraulic stations.....	563,491,598	115,800	2,058,231	12,643,754	352,089,215	110,709,751
Fuel stations.....	15,729,128	473,233	4,750,066	2,987,961	92,575	28,282
Total Capital in Municipal Stations	342,009,204	101,352	6,701,602	5,526,452	6,926,141	281,849,310
Generation.....	163,389,260	52,366	4,546,547	2,647,555	3,330,037	135,735,813
Transmission.....	65,529,136	—	978,881	1,096,843	210,001	58,714,106
Distribution.....	92,759,013	40,313	865,367	1,543,734	3,047,575	71,871,310
General.....	20,331,795	11,673	310,807	238,320	338,528	15,528,081
Non-generating stations.....	85,807,899	—	850,074	1,263,064	1,354,651	77,859,347
Generating stations.....	256,201,305	104,352	5,850,928	4,263,388	5,571,490	203,989,963
Hydraulic stations.....	240,110,064	—	5,213,140	4,094,651	3,987,840	203,878,478
Fuel stations.....	16,091,241	104,352	637,788	168,737	1,583,650	111,485
Total Capital in Non-Generating Stations	121,497,572	6,800	1,471,748	2,286,239	13,996,915	81,616,877
Generation.....	718,921	—	215,592	257,151	—	170,317
Transmission.....	7,723,542	—	12,923	181,947	2,895,949	2,147,267
Distribution.....	98,120,112	6,000	967,998	1,439,052	10,164,776	69,725,700
General.....	14,934,997	800	275,235	408,089	936,190	9,573,593
Total Capital in Generating Stations	835,422,031	693,385	12,659,225	19,895,103	357,753,280	314,727,996
Generation.....	584,486,924	414,298	7,145,393	16,298,676	266,319,888	215,290,108
Transmission.....	133,929,186	—	2,462,976	1,414,594	41,807,476	69,908,966
Distribution.....	69,395,700	236,381	2,200,211	1,396,023	26,874,837	16,245,816
General.....	47,610,221	42,706	850,645	785,810	22,751,079	13,283,106
Hydraulic Stations.....	803,601,662	115,800	7,271,371	16,738,405	356,077,055	314,588,229
Generation.....	567,428,572	74,300	5,211,203	14,259,937	265,762,409	215,209,915
Transmission.....	131,607,419	—	1,239,997	1,414,594	41,807,476	69,908,966
Distribution.....	59,207,617	38,500	606,122	632,407	25,855,564	16,207,160
General.....	45,358,054	3,000	214,049	431,467	22,651,606	13,262,188
Fuel Stations.....	31,820,369	577,585	5,387,854	3,156,698	1,676,225	139,767
Generation.....	17,058,352	339,998	1,934,190	2,038,739	557,479	80,199
Transmission.....	2,321,767	—	1,222,979	—	—	—
Distribution.....	10,188,083	197,881	1,594,089	763,616	1,019,273	38,656
General.....	2,252,167	39,706	636,596	354,343	99,473	20,918
TOTAL CAPITAL						
Average per H.P. of Primary Power	207	199	222	394	181	253
Average per H.P. including Auxiliary equipment	200	194	214	376	178	247
Average per K.V.A. of Dynamo Capacity	254	234	272	470	215	316
Average per K.V.A. including auxiliary equipment	245	234	260	450	212	308
Generation						
Average cost per H.P. (including auxiliary equipment)—						
In all generating stations.....	122	115	112	290	128	135
In Hydraulic stations.....	123	135	122	312	128	135
In Fuel stations.....	94	111	91	195	141	79
Transmission Lines						
Average per pole line mile	9,856	—	6,746	6,117	10,241	12,941
Distribution Lines						
Average per pole line mile	7,296	2,003	2,685	3,211	8,693	8,004

Tableau 4—Capitaux, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Britannique	Yukon	
46,634,904 4-87	11,126,900 1-16	18,683,585 1-95	74,005,894 7-74	1,360,752 -14	Total des capitaux. Pourcentage du total pour le Canada.
22,812,082	6,368,990	9,328,496	39,510,541	1,074,313	Génération.
7,078,558	576,758	3,615,112	9,389,539	160,663	Transmission.
12,606,906	3,682,509	4,723,792	17,219,937	26,874	Distribution.
4,138,358	498,643	1,016,185	7,885,877	98,902	Généralités.
23,954,024	3,262,421	11,874,849	70,458,642	1,360,752	Total des capitaux dans les usines commerciales.
15,377,238	1,651,304	6,165,817	37,748,808	1,074,313	Génération.
2,850,867	576,758	3,471,676	9,131,361	160,663	Transmission.
4,610,223	878,999	1,486,518	15,865,690	26,874	Distribution.
1,015,696	155,360	750,838	7,712,783	98,902	Généralités.
820,136	21,500	289,339	16,367,884	139,971	Non-productrices.
23,133,888	3,240,921	11,585,510	54,090,758	1,220,781	Productrices.
1,858,988	—	9,203,684	53,601,305	1,211,160	Hydrauliques.
1,275,190	3,240,921	2,381,826	489,453	9,621	A combustible.
22,680,880	7,864,479	6,808,736	3,547,252	—	Total des capitaux dans les usines municipales
7,434,844	4,717,686	3,162,679	1,761,733	—	Génération.
4,127,691	—	143,436	258,178	—	Transmission.
7,995,683	2,803,510	3,237,274	1,354,247	—	Distribution.
3,122,662	343,283	265,347	173,094	—	Généralités.
1,832,485	20,521	1,685,106	942,051	—	Non-productrices.
20,848,395	7,843,958	5,123,630	2,605,201	—	Productrices.
20,273,275	—	237,480	2,425,200	—	Hydrauliques.
575,120	7,843,958	4,886,150	180,001	—	A combustible.
2,652,621	42,021	1,974,445	17,309,935	139,971	Total des capitaux dans les usines non-productrices.
—	—	18,226	16,800	40,835	Génération.
913,231	—	186,064	1,386,161	—	Transmission.
1,320,848	40,541	1,741,273	12,689,536	24,388	Distribution.
418,542	1,480	28,882	3,217,438	74,748	Généralités.
43,982,283	11,084,879	16,709,140	58,695,959	1,220,781	Total des capitaux dans les usines productrices.
22,812,082	6,368,990	9,310,270	39,493,741	1,033,478	Génération.
6,165,327	576,758	3,429,048	8,003,378	160,663	Transmission.
11,285,058	3,641,968	2,982,519	4,530,401	2,486	Distribution.
3,719,816	497,163	987,303	4,668,439	24,154	Généralités.
42,131,973	—	9,441,164	58,026,505	1,211,160	Hydrauliques.
21,555,210	—	5,194,395	39,130,675	1,030,528	Génération.
6,165,327	—	2,917,384	7,993,012	160,663	Transmission.
10,819,219	—	759,836	4,288,809	—	Distribution.
3,592,217	—	569,549	4,614,009	19,969	Généralités.
1,850,310	11,084,879	7,267,976	669,454	9,621	A combustible.
1,256,872	6,368,990	4,115,875	363,065	2,950	Génération.
—	576,758	511,664	10,366	—	Transmission.
465,839	3,641,968	2,222,683	241,592	2,486	Distribution.
127,599	497,163	417,754	54,430	4,185	Généralités.
CAPITAL TOTAL					
146	150	210	190	135	Moyenne par H.P. de la machinerie d'énergie primaire.
135	150	173	173	133	Moyenne par H.P. y compris machinerie auxiliaire.
187	179	262	254	226	Moyenne par K.V.A. de la capacité des dynamos.
170	179	211	230	220	Moyenne par K.V.A. y compris machinerie auxiliaire.
Génération					
66	86	86	92	103	Moyenne par H.P. y compris machinerie auxiliaire—
63	—	98	92	103	Dans les usines productrices.
147	86	74	88	49	Dans les usines hydrauliques.
Dans les usines à combustibles.					
Lignes de transmission.					
9,040	1,510	2,291	9,504	2,008	Moyenne par mille de ligne sur poteaux.
Lignes de distribution.					
9,697	3,840	4,600	6,938	3,359	Moyenne par mille de lignes sur poteaux.

Table 5—Revenue, 1928

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
REVENUES	\$	\$	\$	\$	\$	\$
Revenue from Sale of Electric Energy	112,326,819	189,997	2,627,388	1,900,602	36,172,736	47,745,431
Per cent of total for Canada.....	100.00	0.17	2.34	1.69	32.20	42.51
For lighting purposes.....	50,301,456	160,896	1,776,032	1,089,818	12,028,336	20,976,429
For all other purposes.....	62,025,363	29,101	851,356	810,784	24,144,400	26,769,002
Revenue of Commercial Stations	64,575,700	146,063	1,525,536	1,155,274	34,788,197	12,466,683
Non-generating.....	4,406,004	481	121,967	194,478	944,330	256,715
Generating.....	60,169,696	145,582	1,403,569	960,796	33,843,867	12,209,968
Hydraulic.....	56,624,347	19,105	273,686	462,304	33,820,630	12,197,658
Fuel.....	3,545,349	126,477	1,129,883	498,492	23,237	12,310
Revenue of Municipal Stations	47,751,119	43,934	1,101,852	745,328	1,384,539	35,278,748
Non-generating.....	15,198,522	—	234,542	216,384	308,495	13,099,495
Generating.....	32,552,597	43,934	867,310	528,944	1,076,044	22,179,253
Hydraulic.....	27,088,090	—	658,263	482,477	792,727	22,134,265
Fuel.....	5,464,507	43,934	209,047	46,467	283,317	44,988
Revenue of Non-generating Stations	19,604,526	481	356,509	410,862	1,252,825	13,356,210
Revenue of Generating Stations	92,722,293	189,516	2,270,879	1,489,740	34,919,911	34,389,221
Revenue of Hydraulic Stations	83,712,437	19,105	931,949	944,781	34,613,357	34,331,923
Revenue of Fuel Stations	9,009,856	170,411	1,338,930	544,959	306,554	57,298
Average net revenue per h.p. of primary power	24.27	54.02	41.28	33.80	17.57	30.53
Average net revenue per h.p. in main and auxiliary plants	23.47	52.75	39.70	32.23	17.34	29.77
Average net revenue per K.V.A. of dynamo capacity	29.84	63.40	50.56	40.30	20.94	38.09
Average net revenue per K.V.A. in main and auxiliary plants	28.80	63.40	48.34	38.53	20.64	37.10
Average net revenue per K.W.Hr. of all stations (cents)	0.69	8.30	2.70	2.57	0.47	0.79
Average net revenue per lighting customer	35.34	38.84	38.19	31.75	29.86	34.77
Average net revenue per power customer ..	1,528.88	765.82	587.95	894.91	2,365.24	1,720.04

Tableau 5—Recettes, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
\$	\$	\$	\$	\$	RECETTES
5,864,851 5-22	3,755,734 3-34	3,940,482 3-51	10,018,853 8-92	110,745 0-10	Recettes provenant de la vente d'électricité. Pourcentage du total pour le Canada.
3,844,736 2,020,115	2,777,001 978,733	2,826,601 1,113,881	4,779,531 5,239,322	42,076 68,669	Pour l'éclairage. Pour tous autres usages.
2,833,863 59,822 2,774,041 2,533,050 240,991	895,248 5,293 889,955 — 889,955	1,521,734 80,297 1,441,437 1,008,721 432,716	9,132,357 2,730,599 6,401,758 6,223,776 177,982	110,745 12,022 98,723 85,417 13,306	Recettes des usines commerciales. Non productrices. Productrices. Hydrauliques. A combustible.
3,030,988 327,081 2,703,907 2,441,171 262,736	2,860,486 9,407 2,851,079 — 2,851,079	2,418,748 731,573 1,687,175 50,816 1,636,359	886,496 271,545 614,951 528,371 86,580	— — — — —	Recettes des usines municipales. Non productrices. Productrices. Hydrauliques. A combustible.
386,903	14,790	811,870	3,002,144	12,022	Recettes des usines non-génératrices.
5,477,948	3,741,034	3,128,612	7,016,709	98,723	Recettes des usines génératrices.
4,974,221	—	1,059,537	6,752,147	85,417	Recettes des usines hydrauliques.
503,727	3,741,034	2,069,075	264,562	13,306	Recettes des usines à combustible.
18-36	50-59	44-39	25-71	11-01	Moyenne des recettes nettes par h.p. de machinerie primaire dans les usines principales.
16-93	50-59	36-39	23-38	10-84	Moyenne des recettes nettes par h.p. de machinerie principales et auxiliaires.
23-48	60-38	55-32	34-34	18-37	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos des usines principales.
21-33	60-38	44-60	31-10	17-92	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos principales et auxiliaires.
0-56	3-79	2-17	0-93	0-94	Moyenne des recettes nettes par K.W. Heure (cents) de toutes les usines.
44-66	58-16	43-47	36-00	101-39	Moyenne des recettes nettes par abonnés d'éclairage.
579-16	411-75	428-42	1,330-79	17,167-25	Moyenne des recettes nettes par abonnés force mo- trices.

Table 6—Expenses, 1928

	Canada	Prince Edward Island Ile du Prince- Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau- Brunswick	Quebec	Ontario
	\$	\$	\$	\$	\$	\$
Total Expenses.....	62,330,860	85,600	1,745,135	1,076,167	14,452,685	31,748,812
Per cent of total for Canada.....	100.00	1.4	2.80	1.73	23.19	50.93
Salaries and wages.....	24,087,420	46,341	665,981	349,282	5,437,762	10,723,034
Fuel.....	2,280,405	34,225	229,762	191,507	44,986	153,354
Taxes.....	4,597,399	4,553	196,432	46,364	2,110,229	1,305,866
Cost of power.....	31,365,636	481	652,960	489,014	6,859,708	19,566,558
Total for Commercial Stations.....	30,961,337	69,145	1,245,593	654,992	13,669,513	6,790,240
Salaries and wages.....	11,860,740	40,901	421,711	216,304	5,116,782	1,839,233
Fuel.....	1,038,669	23,210	175,703	177,508	11,982	139,890
Taxes.....	4,180,443	4,553	194,734	45,859	2,101,600	1,014,438
Cost of power.....	13,881,485	481	453,445	215,321	6,439,149	3,796,679
Non-generating stations.....	5,975,902	481	165,070	252,153	833,089	1,602,812
Generating stations.....	24,985,435	68,664	1,080,523	402,839	12,836,424	5,187,428
Hydraulic stations.....	22,352,308	6,936	96,598	73,447	12,817,100	5,182,439
Fuel stations.....	2,633,127	61,728	983,925	329,392	19,324	5,089
Total for Municipal Stations.....	31,369,523	16,455	499,542	421,175	783,172	24,958,572
Salaries and wages.....	12,226,680	5,440	244,270	132,978	320,980	8,883,801
Fuel.....	1,241,736	11,015	54,059	13,999	33,004	13,464
Taxes.....	416,956	—	1,698	505	8,629	291,428
Cost of power.....	17,484,151	—	199,515	273,693	420,559	15,769,879
Non-generating stations.....	22,517,340	—	232,339	339,863	342,982	20,486,212
Generating stations.....	8,852,183	16,455	267,203	81,312	440,190	4,472,360
Hydraulic stations.....	6,243,697	—	148,799	58,363	167,272	4,452,157
Fuel stations.....	2,608,486	16,455	118,404	22,949	272,918	20,203
Total Expenses for Non-generating Stations.	28,493,242	481	397,409	592,016	1,176,071	22,089,024
Salaries and wages.....	7,191,384	—	85,106	129,980	393,506	5,158,950
Fuel.....	1,354	—	1,226	128	—	—
Taxes.....	371,735	—	12,756	10,400	26,739	109,739
Cost of power.....	20,928,760	481	298,321	451,508	755,826	16,820,335
Total Expenses for Generating Stations...	33,837,618	85,119	1,347,726	484,151	13,276,614	9,659,788
Salaries and wages.....	16,896,036	46,341	580,875	219,302	5,044,256	5,564,084
Fuel.....	2,279,051	34,225	228,536	191,379	44,986	153,354
Taxes.....	4,225,664	4,553	183,676	35,964	2,083,490	1,196,127
Cost of power.....	10,436,867	—	354,639	37,506	6,103,882	2,746,223
Hydraulic stations.....	28,596,005	6,936	245,397	131,810	12,984,372	9,634,496
Fuel stations.....	5,241,613	78,183	1,102,329	352,341	292,242	25,292

Table 6—Dépenses, 1928

Manitoba	Saskatchewan	Alberta	British Columbia Colombie Britannique	Yukon	
3,402,533 5.46	1,812,991 2.91	2,265,550 3.63	5,693,606 9.13	47,781 .08	Total des dépenses. Pourcentage du total pour le Canada.
2,077,126 197,661 190,796 936,950	793,634 934,949 64,167 20,241	1,195,556 377,307 76,941 615,746	2,774,847 110,954 600,575 2,207,230	23,857 5,700 1,476 16,748	Traitements, appointements et salaires. Combustible Taxes. Achat d'énergie électrique.
1,966,414	514,736	865,822	5,137,101	47,781	Total pour les usines commerciales.
861,096 123,365 152,763 829,190	274,061 221,539 12,335 6,801	587,725 112,102 56,326 109,669	2,479,070 47,670 596,359 2,014,002	23,857 5,700 1,476 16,748	Traitements, appointements et salaires. Combustible. Taxes. Achat d'énergie électrique.
253,315 1,713,099 1,526,373 186,726	4,062 510,674 — 510,674	78,706 787,116 353,899 433,217	2,764,950 2,372,151 2,280,999 91,152	21,264 26,517 14,617 11,900	Usines non-productrices. Usines productrices. Usines hydrauliques. Usines à combustible.
1,436,119	1,298,255	1,399,728	556,505	—	Total pour les usines municipales.
1,216,030 74,296 38,033 107,760	519,573 713,410 51,832 13,440	607,831 265,205 20,615 506,077	295,777 63,284 4,216 193,228	— — — —	Traitements, appointements et salaires. Combustible. Taxes. Achat d'énergie électrique.
166,642 1,269,477 1,134,645 134,832	15,593 1,282,662 — 1,282,662	701,970 697,758 9,219 688,539	231,739 324,766 273,242 51,524	— — — —	Usines non-productrices. Usines productrices. Usines hydrauliques. Usines à combustible.
419,957	19,655	780,676	2,996,689	21,264	Total des dépenses pour les usines non-productrices.
172,674 — 9,725 237,558	2,677 — 40 16,938	234,057 — 2,281 544,338	1,011,194 — 198,779 1,786,716	3,240 — 1,276 16,748	Traitements, appointements et salaires. Combustible. Taxes. Achat d'énergie électrique.
2,982,576	1,793,336	1,484,874	2,696,917	26,517	Total des dépenses pour les usines productrices.
1,904,452 197,661 181,071 699,392 2,661,018 321,558	790,957 934,949 64,127 3,303 — 1,793,336	961,499 377,307 74,660 71,408 363,118 1,121,756	1,763,653 110,954 401,796 420,514 2,554,241 142,676	20,617 5,700 200 — 14,617 11,900	Traitements, appointements et salaires. Combustible. Taxes. Achat d'énergie électrique. Usines hydrauliques. Usines à combustible.

Table 7—Employees, 1928

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Persons Employed...	15,855	39	561	302	3,912	6,654
Per cent of total for Canada.....	100.00	25	3.54	1.90	24.67	41.97
Officers, clerks, other salaried employees, etc.	6,214	19	223	151	1,370	2,884
Employees on wages.....	9,641	20	338	151	2,542	3,770
Total Employees in Commercial Stations...	8,188	33	345	199	3,655	1,282
Officers, clerks, other salaried employees, etc.	2,768	14	135	67	1,272	399
Employees on wages.....	5,420	19	210	132	2,383	883
Non-generating.....	1,126	—	44	54	318	79
Generating.....	7,062	33	301	145	3,337	1,203
Hydraulic.....	6,175	9	82	38	3,330	1,199
Fuel.....	887	24	219	107	7	4
Total Employees in Municipal Stations...	7,667	6	216	103	257	5,372
Officers, clerks, other salaried employees, etc.	3,446	5	88	84	98	2,485
Employees on wages.....	4,221	1	128	19	159	2,887
Non-generating.....	3,930	—	43	62	67	3,500
Generating.....	3,737	6	173	41	190	1,872
Hydraulic.....	2,994	—	127	33	120	1,865
Fuel.....	743	6	46	8	70	7
Total Employees in Non-generating Sta- tions.	5,056	—	87	116	385	3,579
Officers, clerks, other salaried employees, etc.	2,464	—	50	73	108	1,709
Employees on wages.....	2,592	—	37	43	277	1,810
Total Employees in Generating Stations...	10,799	39	474	186	3,527	3,075
Officers, clerks, other salaried employees, etc.	3,750	19	173	78	1,262	1,115
Employees on wages.....	7,049	20	301	108	2,265	1,960
Hydraulic.....	9,169	9	209	71	3,450	3,064
Fuel.....	1,630	30	265	115	77	11

Tableau 7—Personnel, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
1,355	562	735	1,725	10	Total du personnel occupé.
855	354	464	1088	06	Pourcentage du total pour le Canada.
440	281	288	555	3	Administrateurs, directeurs, commis et tous employés des bureaux.
915	281	447	1,170	7	Ouvriers et journaliers.
526	248	360	1,530	10	Personnel des usines commerciales.
121	145	129	483	3	Administrateurs, directeurs, commis et tous employés des bureaux.
405	103	231	1,047	7	Ouvriers et journaliers.
49	2	17	561	2	Non productrices.
477	246	343	969	8	Productrices.
435	—	154	923	5	Hydrauliques.
42	246	189	46	3	A combustible.
829	314	375	195	—	Personnel des usines municipales.
319	136	159	72	—	Administrateurs, directeurs, commis et tous employés des bureaux.
510	178	216	123	—	Ouvriers et journaliers.
84	4	132	38	—	Non productrices.
745	310	243	157	—	Productrices.
702	—	7	140	—	Hydrauliques.
43	310	236	17	—	A combustible.
133	6	149	599	2	Total du personnel des usines non productrices.
30	5	76	353	—	Administrateurs, directeurs, commis et tous employés des bureaux.
103	1	73	246	2	Ouvriers et journaliers.
1,222	556	586	1,126	8	Total du personnel des usines productrices.
410	276	212	202	3	Administrateurs, directeurs, commis et tous employés des bureaux.
812	280	374	924	5	Ouvriers et journaliers.
1,137	—	161	1,063	5	Hydrauliques.
85	556	425	63	3	A combustible.

Table 8—Number of Customers, 1928

	Canada	Prince Edward Island Ile du Prince- Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau- Brunswick	Quebec	Ontario
Number of Customers	1,464,005	4,182	47,988	35,257	413,072	618,976
Per cent of total for Canada	100.00	0.28	3.28	2.41	28.22	42.28
Domestic light	1,207,457	3,219	38,520	28,920	344,101	516,854
Commercial light	215,728	924	7,984	5,404	58,691	86,508
Power	40,820	39	1,484	933	10,280	15,614
Total Number of Customers of Commercial Stations.	677,223	3,437	32,385	18,968	371,671	67,484
Domestic light	547,949	2,682	25,781	14,822	307,621	51,253
Commercial light	109,219	734	5,616	3,549	54,790	13,467
Power	20,055	21	988	597	9,260	2,764
Non-generating	148,811	35	6,154	8,000	30,777	10,056
Generating	528,412	3,402	26,231	10,968	340,894	57,428
Hydraulic	463,324	804	4,106	1,379	340,272	57,204
Fuel	65,088	2,598	22,125	9,589	622	224
Total Number of Customers of Municipal Stations.	786,782	745	15,603	16,289	41,401	551,492
Domestic light	659,508	537	12,739	14,098	36,480	465,601
Commercial light	106,509	190	2,368	1,855	3,901	73,041
Power	20,765	18	496	336	1,020	12,850
Non-generating	586,322	—	7,504	11,773	17,214	510,925
Generating	200,460	745	8,099	4,516	24,187	40,567
Hydraulic	114,349	—	2,913	3,450	14,341	39,882
Fuel	86,111	745	5,186	1,066	9,846	685
Total Number of Customers of Non-Generating Stations	735,133	35	13,658	19,773	47,991	529,981
Domestic light	615,513	31	11,283	16,392	43,239	433,823
Commercial light	100,903	4	1,982	2,940	3,658	74,493
Power	18,717	—	393	441	1,094	12,663
Total Number of Customers of Generating Stations.	728,872	4,147	34,330	15,484	365,081	97,995
Hydraulic stations	577,673	804	7,019	4,829	354,613	97,086
Domestic light	476,591	642	5,618	4,352	291,726	82,281
Commercial light	84,772	152	1,188	387	53,968	11,856
Power	16,310	10	213	90	8,919	2,949
Fuel Stations	151,199	3,343	27,311	10,655	10,468	909
Domestic light	115,353	2,546	21,619	8,176	9,136	750
Commercial light	30,053	768	4,814	2,077	1,065	157
Power	5,793	29	878	402	267	2
Average Number of Domestic Light Customers per 100 of population.	12.50	3.73	7.04	6.97	13.00	16.01

Table 9—Pole Line Mileage, 1928

Pole Line Mileage	37,333	121	1,547	1,144	8,625	16,309
Per cent of total for Canada	100.00	0.32	4.14	3.06	23.10	43.69
For transmission	14,372	—	367	261	4,365	5,568
For distribution	22,961	121	1,180	883	4,260	10,741
Total Pole Line Mileage—Commercial Stations.	18,875	104	949	511	8,089	2,594
Non-generating	4,313	7	275	212	1,799	192
Generating	14,562	97	674	299	6,290	2,402
Hydraulic	12,402	61	288	66	6,276	2,397
Fuel	2,160	36	386	233	14	5
Total Pole Line Mileage—Municipal Stations.	18,458	17	598	633	536	13,715
Non-generating	7,496	—	212	195	244	5,728
Generating	10,962	17	386	438	292	7,987
Hydraulic	9,729	—	295	405	234	7,960
Fuel	1,233	17	91	33	58	27
Total Pole Line Mileage—Non-generating Stations.	11,809	7	487	407	2,043	5,929
Total Pole Line Mileage—Generating Stations.	25,524	114	1,060	737	6,582	10,389
Hydraulic stations	22,131	61	583	471	6,510	10,357
Fuel stations	3,393	53	477	266	72	32

Tableau 8—Abonnés, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
89,596 6-12	50,132 3-42	67,645 4-62	136,737 9-34	420 0-03	Nombre d'abonnés. Pourcentage du total pour le Canada.
72,043	36,994	52,385	114,116	305	Eclairage, particuliers.
14,052	10,755	12,639	18,661	110	Eclairage, commerçants.
3,501	2,383	2,621	3,960	5	Force motrice..
33,708	15,020	19,234	114,896	420	Nombre total des abonnés des usines commerciales.
25,920	10,204	12,840	96,521	305	Eclairage, particuliers.
5,872	4,408	5,554	15,119	110	Eclairage, commerçants.
1,916	408	840	3,256	5	Force motrice.
5,098	257	2,530	85,639	265	Non-productrices.
28,610	14,763	16,704	29,257	155	Productrices.
24,538	—	8,591	26,425	5	Hydrauliques.
4,072	14,763	8,113	2,832	150	A combustible.
55,888	35,112	48,411	21,841	—	Nombre total des abonnés des usines municipales.
46,123	26,790	39,545	17,595	—	Eclairage, particuliers.
8,180	6,347	7,085	3,542	—	Eclairage, commerçants.
1,585	1,975	1,781	704	—	Force motrice.
5,671	478	20,242	12,515	—	Non-productrices.
50,217	34,634	28,169	9,326	—	Productrices.
45,766	—	696	7,301	—	Hydrauliques.
4,451	34,634	27,473	2,025	—	A combustible.
10,769	735	22,772	98,154	265	Nombre des abonnés des usines non-productrices.
8,686	566	19,999	81,304	190	Eclairage, particuliers.
1,660	152	1,935	14,002	75	Eclairage, commerçants.
423	17	838	2,848	—	Force motrice.
78,827	49,397	44,873	38,583	155	Nombre total des abonnés des usines productrices.
70,304	—	9,287	33,726	5	Hydrauliques.
57,324	—	5,612	29,036	—	Eclairage, particuliers.
10,239	—	3,304	3,678	—	Eclairage, commerçants.
2,741	—	371	1,012	5	Force motrice.
8,523	49,397	35,586	4,857	150	A combustible.
6,033	36,428	26,774	3,776	115	Eclairage, particuliers.
2,153	10,603	7,400	981	35	Eclairage, commerçants.
337	2,366	1,412	100	—	Force motrice.
11-00	4-35	8-29	19-57	8-71	Moyenne des consommateurs d'éclairage électrique par 100 habitants.

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1928

2,083 5-58	1,341 3-59	2,605 6-98	3,470 9-30	88 0-24	Longueur totale en milles des lignes sur poteaux. Pourcentage au total pour le Canada.
783	382	1,578	988	80	Pour la transmission.
1,300	959	1,027	2,482	8	Pour la distribution.
919	862	1,884	2,875	88	Pour le service des usines commerciales.
177	11	147	1,487	6	Non-productrices.
742	851	1,737	1,388	82	Productrices.
693	—	1,230	1,311	80	Hydrauliques.
49	851	507	77	2	A combustible.
1,164	479	721	595	—	Pour le service des usines municipales.
511	14	290	302	—	Non-productrices.
653	465	431	293	—	Productrices.
579	—	16	240	—	Hydrauliques.
74	465	415	53	—	A combustible.
688	25	437	1,789	6	Pour le service des usines non-productrices.
1,395	1,316	2,168	1,681	82	Pour le service des usines productrices
1,272	—	1,246	1,551	80	Hydrauliques.
123	1,316	922	130	2	A combustible

Table 10—Equipment, 1928

TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power.....H.P.	4,786,900	3,602	66,187	58,964	2,086,683	1,603,789
Per cent of total for Canada.....	100.00	0.08	1.38	1.23	43.59	33.50
Water wheels and turbines.....No.	749	9	43	16	239	334
Total capacity.....H.P.	4,445,531	404	42,349	45,760	2,054,405	1,562,623
Steam reciprocating engines.....No.	154	2	25	17	10	18
Total capacity.....H.P.	43,034	425	8,088	5,270	4,950	3,923
Steam turbines.....No.	93	2	12	6	8	6
Total capacity.....H.P.	273,277	2,173	15,075	6,415	26,965	36,500
Gas and oil engines.....No.	392	5	12	12	6	9
Total capacity.....H.P.	25,058	540	675	1,519	363	743
Total Dynamo Capacity.....K.V.A.	3,899,771	2,997	54,348	49,322	1,752,291	1,286,986
Per cent of total for Canada.....	100.00	0.08	1.39	1.27	44.93	33.00
Dynamos, A.C.....No.	1,079	14	85	41	261	334
Total capacity.....K.V.A.	3,890,233	2,989	53,133	48,064	1,751,746	1,286,180
Dynamos, D.C.....No.	285	1	10	10	3	11
Total capacity.....K.W.	9,538	8	1,215	1,258	545	806
Commercial Stations						
Total Primary Power.....H.P.	3,399,169	3,072	29,799	45,389	2,062,968	542,298
Water wheels and turbines.....No.	545	9	18	10	221	209
Total capacity.....H.P.	3,207,672	464	10,499	33,700	2,034,230	505,029
Steam engines.....No.	88	2	17	14	4	9
Total capacity.....H.P.	25,037	425	5,660	4,855	2,750	1,323
Steam turbines.....No.	52	2	8	6	7	4
Total capacity.....H.P.	152,168	2,173	13,500	6,415	25,625	35,800
Gas and oil engines.....No.	293	1	5	6	6	4
Total capacity.....H.P.	14,283	10	140	419	363	146
Total Dynamo Capacity.....K.V.A.	2,802,149	2,532	24,543	38,755	1,733,634	462,954
Dynamos, A.C.....No.	710	10	40	27	235	201
Total capacity.....K.V.A.	2,795,321	2,524	23,753	37,553	1,733,089	462,598
Dynamos, D.C.....No.	247	1	8	9	3	10
Total capacity.....K.W.	6,828	8	790	1,202	545	356
Municipal Stations						
Total Primary Power.....H.P.	1,387,740	530	36,388	13,575	23,715	1,061,491
Water wheels and turbines.....No.	204	—	25	6	18	125
Total capacity.....H.P.	1,237,859	—	31,850	12,060	20,175	1,057,564
Steam engines.....No.	66	—	8	3	6	9
Total capacity.....H.P.	17,997	—	2,428	415	2,200	2,600
Steam turbines.....No.	41	—	4	—	1	2
Total capacity.....H.P.	121,109	—	1,575	—	1,340	700
Gas and oil engines.....No.	99	4	7	6	—	5
Total capacity.....H.P.	10,775	530	535	1,100	—	597
Total Dynamo Capacity.....K.V.A.	1,097,622	465	29,805	10,567	18,657	824,032
Dynamos, A.C.....No.	369	4	45	14	26	133
Total capacity.....K.V.A.	1,094,912	465	29,380	10,511	18,657	823,582
Dynamos, D.C.....No.	38	—	2	1	—	1
Total capacity.....K.W.	2,710	—	425	56	—	450

Tableau 10—Machinerie, 1928

TOTAL DE L'OUTILLAGE Y COMPRIS CELUI D'USINES AUXILIAIRES

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
346,461 7-24 32	74,240 1-55 —	108,272 2-26 16	428,482 8-95 58	10,220 0-22 2	Total, force motrice primaire..... H.P.
310,925 17	— 17	33,520 31	385,485 2,029 16	10,000 1	Pourcentage du total pour le Canada.....
4,812 8	4,065 17	9,412 17	2,029 16	60 1	Turbines et roues hydrauliques..... Nomb.
29,240 26	57,387 241	61,700 56	37,662 25	160 —	Capacité totale..... H.P.
1,484	12,788	3,640	8,306	—	Machines à vapeur..... Nomb.
274,941 7-05 67	62,200 1-59 97	88,360 2-27 75	322,146 8-26 102	6,180 0-16 3	Capacité totale..... H.P.
274,579 15	60,101 176	85,583 43	321,708 14	6,150 2	Turbines à vapeur..... Nomb.
362	2,099	2,777	438	30	Capacité totale..... H.P.
					Moteurs à gaz et à pétrole..... Nomb.
					Capacité totale..... H.P.
					Capacité des dynamos..... K.V.A.
					Pourcentage du total pour le Canada.....
					Dynamos, C.A..... Nomb.
					Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
					Usines commerciales
223,672 15	11,300 —	60,830 14	409,612 47	10,220 2	Total, force motrice primaire..... H.P.
205,800 8	— 9	32,560 13	375,390 11	10,000 1	Turbines et roues hydrauliques..... Nomb.
3,482 4	1,113 2	4,180 7	1,189 11	60 1	Capacité totale..... H.P.
14,100 9	1,333 195	21,550 50	31,512 17	160 —	Machines à vapeur..... Nomb.
290	8,854	2,540	1,521	—	Capacité totale..... H.P.
169,026 26	7,964 53	47,032 42	309,529 73	6,180 3	Turbines à vapeur..... Nomb.
168,888 8	6,205 153	45,470 39	309,091 14	6,150 2	Capacité totale..... H.P.
138	1,759	1,562	438	30	Moteurs à gaz et à pétrole..... Nomb.
					Capacité totale..... H.P.
					Capacité des dynamos..... K.V.A.
					Dynamos, C.A..... Nomb.
					Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
					Usines municipales
122,789 17	62,940 —	47,442 2	18,870 11	—	Total force motrice primaire..... H.P.
105,125 9	— 8	960 18	10,095 5	—	Turbines et roues hydrauliques..... Nomb.
1,330 4	2,952 15	5,232 10	840 5	—	Capacité totale..... H.P.
15,140 17	56,054 46	40,150 6	6,150 8	—	Machines à vapeur..... Nomb.
1,194	3,934	1,100	1,785	—	Capacité totale..... H.P.
105,915 41	54,236 44	41,328 33	12,617 29	—	Turbines à vapeur..... Nomb.
105,691 7	53,896 23	40,113 4	12,617 —	—	Capacité totale..... H.P.
224	340	1,215	—	—	Moteurs à gaz et à pétrole..... Nomb.
					Capacité totale..... H.P.
					Capacité des dynamos..... K.V.A.
					Dynamos, C.A..... Nomb.
					Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.

CENSUS OF INDUSTRY

Table 11—Auxiliary Plant Equipment, 1928

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Primary Power..... H.P.	159,233	85	2,543	2,725	28,333	40,050
Per cent of total for Canada.....	100.00	0.05	1.60	1.71	17.79	25.15
Steam reciprocating engines..... No.....	39	1	10	7	4	10
Total capacity..... H.P.....	13,828	75	2,463	1,850	2,750	2,940
Steam turbines..... No.....	37	—	—	—	6	6
Total capacity..... H.P.....	141,982	—	—	—	25,500	36,500
Gas and oil engines..... No.....	26	1	1	5	3	5
Total capacity..... H.P.....	3,423	10	80	875	83	610
Total Secondary Power..... K.V.A.	135,440	—	2,386	2,155	24,693	33,343
Commercial Stations						
Total Primary Power..... H.P.	130,810	85	820	1,825	28,333	36,805
Steam reciprocating engines..... No.....	26	1	5	5	4	5
Total capacity..... H.P.....	9,355	75	740	1,475	2,750	890
Steam turbines..... No.....	28	—	—	—	6	4
Total capacity..... H.P.....	120,542	—	—	—	25,500	35,800
Gas and oil engines..... No.....	15	1	1	3	3	2
Total capacity..... H.P.....	913	10	80	350	83	115
Total Secondary Power..... K.V.A.	112,052	—	760	1,558	24,693	31,378
Municipal Stations						
Total Primary Power..... H.P.	28,423	—	1,723	900	—	3,245
Steam reciprocating engines..... No.....	13	—	5	2	—	5
Total capacity..... H.P.....	4,473	—	1,723	375	—	2,050
Steam turbines..... No.....	9	—	—	—	—	2
Total capacity..... H.P.....	21,440	—	—	—	—	700
Gas and oil engines..... No.....	11	—	—	2	—	3
Total capacity..... H.P.....	2,510	—	—	525	—	495
Total Secondary Power..... K.V.A.	23,338	—	1,626	597	—	1,965

Tableau 11—Machines des usines auxiliaires, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
26,980	—	19,500	38,857	160	Total force motrice primaire..... H.P.
16·95	—	12·25	24·40	0·10	Pourcentage du total pour le Canada.
—	—	5	2	—	Machines à vapeur..... Nomb.
—	—	2,975	775	—	Capacité totale..... H.P.
6	—	5	13	1	Turbines à vapeur..... Nomb.
26,740	—	16,250	36,832	160	Capacité totale..... H.P.
2	—	5	4	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	275	1,250	—	Capacité totale..... H.P.
25,163	—	17,123	30,427	150	Machinerie développant la force motrice secondaire..... K.V.A.
					Usines commerciales
12,000	—	19,500	31,282	160	Total force motrice primaire..... H.P.
—	—	5	1	—	Machines à vapeur..... Nomb.
—	—	2,975	450	—	Capacité totale..... H.P.
3	—	5	9	1	Turbines à vapeur..... Nomb.
12,000	—	16,250	30,832	160	Capacité totale..... H.P.
—	—	5	—	—	Moteurs à gaz et à pétrole..... Nomb.
—	—	275	—	—	Capacité totale..... H.P.
11,250	—	17,123	25,140	150	Machinerie développant la force motrice secondaire..... K.V.A.
					Usines municipales
14,980	—	—	7,575	—	Total force motrice primaire..... H.P.
—	—	—	1	—	Machines à vapeur..... Nomb.
—	—	—	325	—	Capacité totale..... H.P.
3	—	—	4	—	Turbines à vapeur..... Nomb.
14,740	—	—	6,000	—	Capacité totale..... H.P.
2	—	—	4	—	Moteurs à gaz et à pétrole..... Nomb.
240	—	—	1,250	—	Capacité totale..... H.P.
13,913	—	—	5,287	—	Machinerie développant la force motrice secondaire..... K.V.A.

Table 12—Main Plant Equipment, 1928

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Commercial Stations						
Total Primary Power..... H.P.....	4,627,667	3,517	63,644	56,239	2,058,350	1,563,739
Per cent of total for Canada.....	100.00	.08	1.38	1.21	44.48	33.79
Water wheels and turbines..... No.....	749	9	43	16	239	334
Total capacity..... H.P.....	4,445,531	464	42,349	45,760	2,054,405	1,562,623
Steam reciprocating engines..... No.....	115	1	15	10	6	8
Total capacity..... H.P.....	29,206	350	5,625	3,420	2,200	983
Steam turbines..... No.....	56	2	12	6	2	—
Total capacity..... H.P.....	131,295	2,173	15,075	6,415	1,465	—
Gas and oil engines..... No.....	366	4	11	7	3	4
Total capacity..... H.P.....	21,635	530	595	644	280	133
Total Dynamo Capacity..... K.V.A.....	3,764,331	2,997	51,962	47,167	1,727,598	1,253,643
Per cent of total for Canada.....	100.00	.08	1.39	1.25	45.89	33.30
Dynamos, A.C..... No.....	994	14	74	29	250	322
Total capacity..... K.V.A.....	3,757,036	2,989	51,172	46,142	1,727,053	1,253,287
Dynamos, D.C..... No.....	277	1	8	9	8	10
Total capacity..... K.W.....	7,295	8	790	1,025	545	356
Municipal Stations						
Total Primary Power..... H.P.....	3,268,350	2,987	28,979	43,564	2,034,635	505,493
Per cent of total for Canada.....	100.00	.09	.89	1.33	62.25	15.47
Water wheels and turbines..... No.....	545	9	18	10	221	209
Total capacity..... H.P.....	3,207,672	464	10,499	33,700	2,034,230	505,029
Steam reciprocating engines..... No.....	62	1	12	9	—	4
Total capacity..... H.P.....	15,682	350	4,920	3,380	—	433
Steam turbines..... No.....	24	2	8	6	1	—
Total capacity..... H.P.....	31,626	2,173	13,500	6,415	125	—
Gas and oil engines..... No.....	278	—	4	3	3	2
Total capacity..... H.P.....	13,370	—	60	69	280	31
Total Dynamo Capacity..... K.V.A.....	2,690,097	2,532	23,783	37,197	1,708,941	431,576
Per cent of total for Canada.....	100.00	.09	.88	1.38	63.53	16.04
Dynamos, A.C..... No.....	653	10	34	19	224	194
Total capacity..... K.V.A.....	2,684,637	2,524	22,993	36,228	1,708,396	431,220
Dynamos, D.C..... No.....	242	1	8	8	3	10
Total capacity..... K.W.....	5,460	8	790	969	545	356
Hydraulic Stations						
Total Primary Power..... H.P.....	1,359,317	530	34,665	12,675	23,715	1,058,246
Per cent of total for Canada.....	100.00	.04	2.55	.93	1.75	77.85
Water wheels and turbines..... No.....	204	—	25	6	18	125
Total capacity..... H.P.....	1,237,859	—	31,850	12,060	20,175	1,057,594
Steam reciprocating engines..... No.....	53	—	3	1	6	4
Total capacity..... H.P.....	13,524	—	705	40	2,200	550
Steam turbines..... No.....	32	—	4	—	1	—
Total capacity..... H.P.....	99,669	—	1,575	—	1,340	—
Gas and oil engines..... No.....	88	4	7	4	—	2
Total capacity..... H.P.....	8,265	530	535	575	—	102
Total Dynamo Capacity..... K.V.A.....	1,074,234	465	28,179	9,970	18,657	822,067
Per cent of total for Canada.....	100.00	.04	2.62	.93	1.74	76.53
Dynamos, A.C..... No.....	341	4	40	10	26	128
Total capacity..... K.V.A.....	1,072,399	465	28,179	9,914	18,657	822,067
Dynamos, D.C..... No.....	35	—	—	1	—	—
Total capacity..... K.W.....	1,835	—	—	56	—	—
Fuel Stations						
Total Dynamo Capacity..... K.V.A.....	152,094	2,590	17,279	8,442	3,193	596
Per cent of total for Canada.....	100.00	1.70	11.36	5.55	2.10	.39
Dynamos, A.C..... No.....	270	7	30	15	9	8
Total capacity..... K.V.A.....	145,757	2,590	16,489	7,542	3,168	475
Dynamos, D.C..... No.....	265	—	8	8	1	4
Total capacity..... K.W.....	6,337	—	790	900	25	121

Tableau 12—Machines des usines principales, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
319,481 6.90 32	74,240 1.60 —	88,772 1.92 16	389,625 8.42 58	10,060 .22 2	Machinerie fournis, la force motrice primaire..H.P. Pourcentage du total pour le Canada.
310,925 17	— 17	33,520 26	385,485 14	10,000 1	Turbines et roues hydrauliques..... Nomb.
4,812 2	4,065 17	6,437 12	1,254 3	60 —	Capacité totale..... H.P.
2,500 24	57,387 241	45,450 51	830 21	— —	Machines à vapeur..... Nomb.
1,244 —	12,788 —	3,365 —	2,056 —	— —	Capacité totale..... H.P.
249,778 6.64	62,200 1.65	71,237 1.89	291,719 7.75	6,030 .16	Capacité totale de l'ensemble des dynamos.... K.V.A. Pourcentage du total pour le Canada.
249,416 15	60,101 176	69,595 39	291,281 14	6,000 2	Dynamos, C.A..... Nomb.
362 —	2,099 —	1,642 —	438 —	30 —	Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
Usines commerciales					
211,672 6.48	11,300 .34	41,330 1.26	378,330 11.58	10,060 .31	Machinerie fournis, la force motrice primaire..H.P. Pourcentage du total pour le Canada.
205,800 8	— 9	32,560 8	375,390 10	10,000 1	Turbines et roues hydrauliques..... Nomb.
3,482 1	1,113 2	1,205 2	739 2	60 —	Capacité totale..... H.P.
2,100 9	1,333 195	5,300 45	680 17	— —	Machines à vapeur..... Nomb.
290 —	8,854 —	2,265 —	1,521 —	— —	Capacité totale..... H.P.
157,776 5.87	7,964 .30	29,999 1.11	284,359 10.57	6,030 .23	Capacité totale de l'ensemble des dynamos.... K.V.A. Pourcentage du total pour le Canada.
157,638 23	6,205 53	29,482 31	283,951 63	6,000 2	Dynamos, C.A..... Nomb.
138 —	1,759 —	427 —	438 —	30 —	Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
Usines municipales					
107,809 7.93	62,940 4.63	47,442 3.49	11,295 .83	— —	Machinerie fournis la force motrice primaire.. H.P. Pourcentage du total pour le Canada.
105,125 17	— —	960 2	10,095 11	— —	Turbines et roues hydrauliques..... Nomb.
1,330 9	2,952 8	5,232 18	515 4	— —	Capacité totale..... H.P.
400 1	56,054 15	40,150 10	150 1	— —	Machines à vapeur..... Nomb.
15 954	46 3,934	6 1,100	4 535	— —	Capacité totale..... H.P.
92,002 8.56	54,236 5.05	41,328 3.85	7,330 .68	— —	Turbines à vapeur..... Nomb.
91,778 36	53,896 44	40,113 33	7,330 20	— —	Capacité totale..... H.P.
224 —	340 —	1,215 —	— —	— —	Moteurs à gaz et à pétrole..... Nomb.
					Capacité totale..... H.P.
					Capacité totale de l'ensemble des dynamos.... K.V.A. Pourcentage du total pour le Canada.
					Dynamos, C.A..... Nomb.
					Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
Usines hydrauliques					
243,412 6.74	— —	23,200 .64	288,358 7.98	6,000 .17	Capacité totale de l'ensemble des dynamos.... K.V.A. Pourcentage du total pour le Canada.
243,412 32	— —	23,200 12	288,288 58	6,000 2	Dynamos, C.A..... Nomb.
— —	— —	— —	70 —	— —	Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.
Usines à combustible					
6,366 4.19	62,200 40.90	45,037 31.58	3,361 2.21	30 .02	Capacité totale de l'ensemble des dynamos.... K.V.A. Pourcentage du total pour le Canada.
6,004 15	60,101 97	46,395 52	2,993 12	— —	Dynamos, C.A..... Nomb.
362 —	2,099 —	1,642 —	368 —	30 —	Capacité totale..... K.V.A.
					Dynamos, C.D..... Nomb.
					Capacité totale..... K.W.

Table 13—Main Plant Equipment, Classified, 1928

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick
Primary Power—Force motrice primaire.....	4,627,667	3,517	63,644	56,239
Water wheels and turbines—Roues hydrauliques et turbines—				
Total No.....	749	9	43	16
Total H.P.....	4,445,531	464	42,349	45,760
Under—Au-dessous de 500 H.P.....	No..... 187	9	25	6
500—2,000 H.P.....	Total H.P..... 33,126	464	4,809	1,660
2,000—5,000 H.P.....	No..... 210	—	11	2
5,000—10,000 H.P.....	Total H.P..... 237,180	—	15,000	1,600
10,000—15,000 H.P.....	No..... 113	—	7	6
15,000—25,000 H.P.....	Total H.P..... 336,475	—	22,540	17,500
25,000 up.....	No..... 86	—	—	1
Steam reciprocating engines—Machines à vapeur—	Total H.P..... 559,050	—	—	5,000
Under—Au-dessous de 500 H.P.....	No..... 69	—	—	—
500 up.....	Total H.P..... 793,500	—	—	—
Steam turbines—Turbines à vapeur—	No..... 40	—	—	1
Under—Au-dessous de 500 H.P.....	Total H.P..... 733,500	—	—	20,000
500 up.....	No..... 44	—	—	—
Gas and Oil engines—Moteurs à gaz et à pétrole—	Total H.P..... 1,752,700	—	—	—
Under—Au-dessous de 500 H.P.....	Total No..... 115	1	15	10
500 up.....	Total H.P..... 29,206	350	5,625	3,420
Steam turbines—Turbines à vapeur—	No..... 102	1	12	7
Under—Au-dessous de 500 H.P.....	Total H.P..... 16,796	350	3,225	520
500 up.....	No..... 13	—	3	3
Gas and Oil engines—Moteurs à gaz et à pétrole—	Total H.P..... 12,410	—	2,400	2,900
Under—Au-dessous de 500 H.P.....	Total No..... 56	2	12	6
500—2,000 H.P.....	Total H.P..... 131,295	2,173	15,075	6,415
2,000—5,000 H.P.....	No..... 10	—	4	1
5,000—10,000 H.P.....	Total H.P..... 2,280	—	775	250
10,000—15,000 H.P.....	No..... 19	2	5	4
15,000—25,000 H.P.....	Total H.P..... 17,414	2,173	4,900	3,165
25,000 up.....	No..... 20	—	3	1
Gas and Oil engines—Moteurs à gaz et à pétrole—	Total H.P..... 56,460	—	9,400	3,000
Under—Au-dessous de 500 H.P.....	No..... 7	—	—	—
500 up.....	Total H.P..... 55,141	—	—	—
Gas and Oil engines—Moteurs à gaz et à pétrole—	Total No..... 366	4	11	7
Under—Au-dessous de 500 H.P.....	Total H.P..... 21,635	530	595	644
500 up.....				
Secondary Power—Force motrice secondaire.				
Dynamos, A.C. and D.C.—C.A. et C.D.—				
Total No.....	1,271	15	82	38
Total K.V.A.....	3,764,331	2,997	51,962	47,167
Dynamos, A.C.—C.A.....	Total No..... 994	14	74	29
Under—Au-dessous de 50 K.V.A.....	Total K.V.A..... 3,757,036	2,989	51,172	46,142
50—200 K.V.A.....	No..... 73	4	10	1
200—500 K.V.A.....	Total K.V.A..... 2,222	133	372	30
500—1,000 K.V.A.....	No..... 202	7	18	9
1,000—5,000 K.V.A.....	Total K.V.A..... 22,316	731	1,922	1,169
5,000—10,000 K.V.A.....	No..... 129	1	19	4
10,000—15,000 K.V.A.....	Total K.V.A..... 39,276	250	5,288	1,593
15,000—25,000 K.V.A.....	No..... 142	1	8	5
25,000 up.....	Total K.V.A..... 102,782	625	5,000	3,375
Gas and Oil engines—Moteurs à gaz et à pétrole—	No..... 238	1	19	9
Under—Au-dessous de 50 K.V.A.....	Total K.V.A..... 537,333	1,250	38,590	22,475
50—200 K.V.A.....	No..... 90	—	—	—
200—500 K.V.A.....	Total K.V.A..... 628,192	—	—	—
500—1,000 K.V.A.....	No..... 55	—	—	—
1,000—5,000 K.V.A.....	Total K.V.A..... 591,165	—	—	—
5,000—10,000 K.V.A.....	No..... 28	—	—	1
10,000—15,000 K.V.A.....	Total K.V.A..... 532,750	—	—	17,500
15,000—25,000 K.V.A.....	No..... 37	—	—	—
25,000 up.....	Total K.V.A..... 1,301,000	—	—	—
Dynamos, D.C.—C.D.....	No..... 277	1	8	9
Under—Au-dessous de 50 K.W.....	Total K.W..... 7,295	8	790	1,025
50—200 K.W.....	No..... 252	1	4	4
200—500 K.W.....	Total K.W..... 2,984	8	40	69
500 up K.W.....	No..... 18	—	2	4
Gas and Oil engines—Moteurs à gaz et à pétrole—	Total K.W..... 1,261	—	200	306
Under—Au-dessous de 50 K.W.....	No..... 4	—	2	—
50—200 K.W.....	Total K.W..... 1,150	—	550	—
200—500 K.W.....	No..... 3	—	—	1
500 up K.W.....	Total K.W..... 1,900	—	—	650

Tableau 13—Machines des usines principales classifiées, 1928

Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia — Colombie Bri- tannique	Yukon	Commercial — Commer- ciales	Municipal — Municipales
2,058,350	1,563,739	319,481	74,240	88,772	389,625	10,060	3,268,350	1,359,317
239	334	32	—	16	58	2	545	204
2,054,405	1,562,623	310,925	—	33,520	385,485	10,000	3,207,672	1,237,859
37	85	1	—	10	14	—	140	47
6,635	15,248	125	—	1,920	2,265	—	22,582	10,544
70	117	—	—	—	10	—	136	74
79,020	129,540	—	—	—	12,020	—	148,815	88,365
52	54	4	—	2	8	—	92	21
93,100	157,335	12,800	—	8,000	25,200	—	279,025	57,450
29	21	21	—	4	8	2	65	21
200,150	129,300	130,000	—	23,600	61,000	10,000	427,250	131,800
28	33	—	—	—	8	—	52	17
302,300	393,700	—	—	—	97,500	—	581,300	212,200
16	15	—	—	—	—	—	25	15
340,500	235,500	—	—	—	137,500	—	498,000	235,5
27	9	6	—	—	2	—	35	9
1,032,700	502,000	168,000	—	—	50,000	—	1,250,700	502,000
6	8	17	17	26	14	1	62	53
2,200	983	4,812	4,065	6,437	1,254	60	15,682	13,524
5	8	16	15	23	14	1	55	47
1,500	983	2,562	2,215	4,127	1,254	60	8,132	8,664
1	—	1	2	3	—	—	7	6
700	—	2,250	1,850	2,310	—	—	7,550	4,860
2	—	2	17	12	3	—	24	32
1,465	—	2,500	57,387	45,450	830	—	31,626	99,669
1	—	1	1	—	2	—	4	6
125	—	400	400	—	330	—	585	1,695
1	—	—	4	2	1	—	13	6
1,340	—	—	3,336	2,000	500	—	11,241	6,173
—	—	1	8	7	—	—	7	13
—	—	2,100	24,210	17,750	—	—	19,800	36,660
—	—	—	4	3	—	—	—	7
—	—	—	29,441	25,700	—	—	—	55,141
3	4	24	241	51	21	—	278	88
280	133	1,244	12,788	3,365	2,056	—	13,370	8,265
253	332	74	273	103	97	4	895	376
1,727,598	1,253,643	249,778	62,200	71,237	291,719	6,030	2,690,097	1,074,234
250	322	59	97	64	83	2	653	341
1,727,053	1,253,287	249,416	60,101	69,595	291,281	6,000	2,684,637	1,072,399
4	11	7	25	6	5	—	44	29
120	358	189	789	146	85	—	1,258	964
24	34	13	43	25	29	—	119	83
2,760	4,054	1,202	4,395	2,705	3,378	—	12,728	9,588
27	42	6	10	14	6	—	74	55
8,388	12,746	1,862	3,013	4,156	1,980	—	21,718	17,558
44	68	—	6	3	7	—	96	46
33,265	50,012	—	3,529	2,088	4,888	—	69,097	33,685
61	96	16	9	13	12	2	169	69
136,870	196,485	49,413	23,375	36,750	26,125	6,000	387,841	149,492
22	38	11	4	2	13	—	55	35
141,900	287,592	70,750	25,000	11,250	91,700	—	370,180	258,012
25	23	—	—	1	6	—	41	14
258,000	245,040	—	—	12,500	75,625	—	445,065	146,100
15	1	6	—	—	5	—	27	1
286,750	15,000	126,000	—	—	87,500	—	517,750	15,000
28	9	—	—	—	—	—	28	9
859,000	442,000	—	—	—	—	—	859,000	442,000
3	10	15	176	39	14	2	242	35
545	356	362	2,099	1,642	438	30	5,460	1,835
2	6	13	173	34	13	2	224	28
45	121	237	1,929	267	238	30	2,585	399
—	4	2	3	3	—	—	13	5
—	235	125	170	225	—	—	975	286
—	—	—	—	1	1	—	3	1
—	—	—	—	400	200	—	750	400
1	—	—	—	1	—	—	2	1
500	—	—	—	750	—	—	1,150	750

Table 14—Electric Energy Generated, 1928

	Canada	Prince Edward- Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
ALL STATIONS						
Total K.W. Hours generated (thousands) . .	16,337,804	2,289	97,448	73,846	7,682,425	6,064,031
Per cent of total for Canada	100.00	0.01	0.60	0.45	47.02	37.1
K.W. hours generated by non-generating stations (thousands)	1,344	—	56	1	—	1,285
K.W. hours generated by generating sta- tions (thousands)	16,336,460	2,289	97,392	73,845	7,682,425	6,062,746
K.V.A. capacity of generating stations	3,893,134	2,997	52,369	47,167	1,752,291	1,285,021
Ratio of output to maximum capacity . . (p.c.)	51.2	8.7	22.8	24.8	55.3	54.4
Average K.W. hours per K.V.A.	4,196	764	1,860	1,566	4,384	4,711
GENERATING STATIONS						
Commercial Stations						
Total						
K.W. hours generated (thousands)	11,460,973	1,802	25,453	46,624	7,629,010	1,917,151
K.V.A. capacity	2,799,950	2,532	24,190	37,197	1,733,634	462,951
Ratio of output to maximum capacity . . (p.c.)	51.4	8.1	14.1	22.1	55.6	47.0
Average K.W. hours per K.V.A.	4,093	712	1,052	1,253	4,401	4,141
Hydraulic						
K.W. Hours generated (thousands)	11,397,931	149	9,443	25,222	7,628,748	1,916,981
K.V.A. capacity	2,752,130	407	9,209	29,275	1,733,259	462,691
Ratio of output to maximum capacity . . (p.c.)	52.1	4.2	19.3	17.8	55.6	47.0
Average K.W. hours per K.V.A.	4,141	366	1,025	862	4,401	4,141
Fuel						
K.W. hours generated (thousands)	63,042	1,653	16,010	21,402	262	161
K.V.A. capacity	47,820	2,125	14,981	7,922	375	261
Ratio of output to maximum capacity . . (p.c.)	15.1	8.9	12.2	30.8	8.0	7.0
Average K.W. hours per K.V.A.	1,318	778	1,069	2,702	699	641
Municipal Stations						
Total						
K.W. hours generated (thousands)	4,875,487	487	71,939	27,221	53,415	4,145,591
K.V.A. capacity	1,093,184	465	28,179	9,970	18,657	822,061
Ratio of output to maximum capacity . . (p.c.)	50.9	12.0	29.1	31.2	32.7	57.0
Average K.W. hours per K.V.A.	4,460	1,047	2,553	2,730	2,863	5,041
Hydraulic						
K.W. hours generated (thousands)	4,707,774	—	69,012	26,410	52,468	4,145,100
K.V.A. capacity	988,910	—	25,831	9,450	15,839	821,731
Ratio of output to maximum capacity . . (p.c.)	54.3	—	30.4	31.9	37.8	57.0
Average K.W. hours per K.V.A.	4,761	—	2,667	2,795	3,313	5,041
Fuel						
K.W. hours generated (thousands)	167,713	487	2,927	811	947	481
K.V.A. capacity	104,274	465	2,298	520	2,818	331
Ratio of output to maximum capacity . . (p.c.)	18.4	12.0	14.5	17.8	3.8	16.8
Average K.W. hours per K.V.A.	1,608	1,047	1,274	1,560	336	1,441
Total Hydraulic						
K.W. hours generated (thousands)	16,105,705	149	78,455	51,632	7,681,216	6,062,091
K.V.A. capacity	3,741,040	407	35,090	38,725	1,749,098	1,284,421
Ratio of output to maximum capacity . . (p.c.)	52.7	4.2	28.5	23.0	55.4	54.4
Average K.W. hours per K.V.A.	4,305	366	2,236	1,333	4,392	4,721
Total Fuel						
K.W. hours generated (thousands)	230,755	2,140	18,937	22,213	1,209	651
K.V.A. capacity	152,094	2,590	17,279	8,442	3,193	591
Ratio of output to maximum capacity . . (p.c.)	17.3	9.4	12.5	30.0	4.3	12.5
Average K.W. hours per K.V.A.	1,517	826	1,096	2,631	379	1,096

Tableau 14—Energie électrique produite, 1928

Manitoba	Saskatchewan	Alberta	British Columbia — Colombie Britannique	Yukon	
TOUTES USINES					
1,050,898	98,971	181,272	1,074,815	11,806	Total K.W. heures produits (milliers).
6.43	0.61	1.11	6.58	0.07	Pourcentage du total pour le Canada.
—	—	—	—	—	K.W. heures produits par les usines non-génératrices (milliers)
1,050,898	98,971	181,272	1,074,815	11,806	K.W. heures produits par les usines génératrices (milliers).
274,941	62,200	88,222	321,896	6,030	Capacité des usines génératrices en K.V.A.
48.9	18.2	23.5	42.8	22.4	Proportion de la production à la capacité (p.c.).
3,822	1,591	2,055	3,339	1,958	Moyenne des K.W. heures par K.V.A.
USINES GÉNÉRATRICES					
Usines Commerciales					
Total					
659,438	7,346	112,706	1,049,635	11,806	K.W. heures produits (milliers).
169,026	7,964	46,894	309,529	6,030	Capacité en K.V.A.
53.9	10.5	27.4	43.9	22.4	Proportion de la production à la capacité (p.c.)
3,901	922	2,403	3,391	1,958	Moyenne des heures K.W. par K.V.A.
Hydrauliques					
654,901	—	104,312	1,046,401	11,770	K.W. heures produits (milliers).
164,850	—	39,335	307,102	6,000	Capacité en K.V.A.
55.2	—	30.3	44.1	22.4	Proportion de la production à la capacité (p.c.).
3,973	—	2,652	3,407	1,962	Moyenne des K.W. heures par K.V.A.
A combustible					
4,537	7,346	8,394	3,234	36	K.W. heures produits (milliers).
4,176	7,964	7,559	2,427	30	Capacité en K.V.A.
12.4	10.5	12.7	15.2	13.7	Proportion de la production à la capacité (p.c.).
1,086	922	1,110	1,333	1,200	Moyenne des K.W. heures par K.V.A.
Usines Municipales					
Total					
391,460	91,625	68,566	25,183	—	K.W. heures produits (milliers).
105,915	54,236	41,328	12,367	—	Capacité en K.V.A.
42.2	19.3	18.9	23.2	—	Proportion de la production à la capacité (p.c.).
3,696	1,689	1,659	2,036	—	Moyenne des K.W. heures par K.V.A.
Hydrauliques					
389,105	—	1,387	24,286	—	K.W. heures produits (milliers).
103,725	—	850	11,433	—	Capacité en K.V.A.
42.8	—	18.6	24.2	—	Proportion de la production à la capacité (p.c.).
3,751	—	1,632	2,124	—	Moyenne des K.W. heures par K.V.A.
A combustible					
2,355	91,625	67,179	897	—	K.W. heures produits (milliers).
2,190	54,236	40,478	934	—	Capacité en K.V.A.
12.3	19.3	18.9	11.0	—	Proportion de la production à la capacité (p.c.).
1,075	1,689	1,659	960	—	Moyenne des K.W. heures par K.V.A.
Total, Hydrauliques					
1,044,006	—	105,099	1,070,687	11,770	K.W. heures produits (milliers).
268,575	—	40,185	318,535	6,000	Capacité en K.V.A.
40.9	—	30.0	43.3	22.4	Proportion de la production à la capacité (p.c.).
3,887	—	2,630	3,361	1,962	Moyenne des K.W. heures par K.V.A.
Total, à combustible					
6,892	98,971	75,573	4,131	36	K.W. heures produits (milliers).
6,366	62,200	48,037	3,361	30	Capacité en K.V.A.
12.4	18.2	18.0	14.0	13.7	Proportion de la production à la capacité (p.c.).
1,083	1,591	1,573	1,229	1,200	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 15—Fuel, 1928

Province	Bituminous Coal—Charbon bitumineux			
	Canadian Canadien		Imported Importé	
	Quantity Quantité	Value Valeur	Quantity Quantité	Value Valeur
	Ton Tonnes	\$	Ton Tonnes	\$
Canada.....	147,909	756,374	38,186	216,737
Prince Edward Island.....	1,000	6,400	2,492	16,510
Nova Scotia.....	46,084	218,697	—	—
New Brunswick.....	27,377	138,844	5,400	37,800
Quebec.....	2,150	15,985	1,884	13,346
Ontario.....	865	5,540	26,979	136,662
Manitoba.....	3,320	21,246	1,351	11,043
Saskatchewan.....	37,926	232,795	100	1,369
Alberta.....	17,060	51,567	—	—
British Columbia.....	12,127	65,800	—	—
Yukon.....	—	—	—	—

Province	Kerosene Kérosène	
	Quantity Quantité	Value Valeur
	Gal. Gal.	\$
	Gal.	\$
Canada.....	197,109	45,634
Prince Edward Island.....	—	—
Nova Scotia.....	3,582	716
New Brunswick.....	90	27
Quebec.....	—	—
Ontario.....	1,354	372
Manitoba.....	50,890	7,456
Saskatchewan.....	92,559	23,803
Alberta.....	37,605	10,591
British Columbia.....	11,029	2,669
Yukon.....	—	—

Tableau 15—Combustible 1928

Anthracite Coal — Houille anthracite		Lignite Coal—Lignite — Canadian — Canadien		Coke — Coke		Gasoline — Gazoline	
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur
Ton — Tonnes	\$	Ton — Tonnes	\$	Ton — Tonnes	\$	Gal. — Gal.	\$
434	7,921	269,216	777,664	3,222	13,504	126,752	36,219
—	—	—	—	—	—	—	—
160	2,225	—	—	207	622	150	39
—	—	—	—	—	—	750	200
—	—	—	—	—	—	776	172
—	—	35,227	109,952	—	—	7,134	2,036
274	5,696	107,166	428,835	815	5,504	94,515	26,058
—	—	126,823	238,877	2,200	7,378	22,802	7,506
—	—	—	—	—	—	625	208
—	—	—	—	—	—	—	—

Fuel Oil — Huile combustible		Wood — Bois		Natural Gas — Gaz naturel		Other Fuel — Autre combustible	Total
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur
Gal. — Gal.	\$	Cord — Corde	\$	1,000 cu. ft. — 1,000 pd.cu.	\$	\$	\$
2,259,371	314,152	13,080	75,136	466,748	32,301	4,763	2,280,405
70,395	11,015	60	300	—	—	—	34,225
77,647	9,543	72	184	—	—	—	229,762
113,375	12,490	20	80	6	2	—	191,507
76,134	10,962	—	—	—	—	4,493	44,986
3,212	398	2,240	10,203	—	—	—	153,354
126,474	20,633	4,008	25,295	—	—	—	197,661
954,103	180,064	5,138	30,825	—	—	—	934,949
303,111	28,024	330	795	466,742	32,299	270	377,307
534,920	41,023	579	1,754	—	—	—	110,954
—	—	633	5,700	—	—	—	5,700

APPENDIX A

MONTHLY OUTPUT OF CENTRAL ELECTRIC STATIONS

The data in the following tables are supplied monthly by the large stations only, but as these stations produce over 97 per cent of the output of all central electric stations in Canada, the fluctuations and trends may be considered as representing the industry.

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA
PRODUCTION DES USINES ÉLECTRIQUES CENTRALES EN CANADA

(A) MONTHLY OUTPUT—PRODUCTION MENSUELLE

(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

Month	Totals for Canada Totaux pour le Canada			Generated by Water-Power Générés par pouvoir hydraulique					Generated by Fuel Générés par combustible		Total Exports Total, exportations	Mois
	Water Eau	Fuel Com- bustible	Total	Maritime Provinces Provinces maritimes	Quebec Québec	Ontario	Prairie Provinces Provinces des prairies	British Columbia Colombie Britannique	Prairie Provinces Provinces des prairies	Other Provinces Autres provinces		
1926												1926
Jan.....	936,035	15,416	951,451	6,955	352,194	441,911	61,693	73,282	12,130	3,286	113,026	Janv.
Feb.....	856,485	14,045	870,530	7,398	322,443	402,113	55,525	69,006	10,234	3,811	98,086	Fév.
March.....	939,537	12,739	952,276	9,333	358,318	435,397	60,318	76,171	10,576	2,163	110,911	Mars.
April.....	891,041	11,004	902,045	6,949	348,958	415,790	53,630	65,714	9,306	1,698	115,698	Avril.
May.....	949,946	10,993	960,939	8,048	399,832	426,439	49,558	66,069	9,270	1,723	119,398	Mai.
June.....	959,913	11,862	971,775	6,542	407,028	430,835	47,627	67,881	9,076	2,786	127,351	Juin.
July.....	953,010	13,458	966,468	6,969	411,974	419,229	44,655	70,183	9,580	3,878	132,225	Juillet.
Aug.....	969,761	12,705	982,466	6,150	406,278	435,584	46,017	75,732	9,618	3,087	142,860	Août.
Sept.....	993,086	15,383	1,008,469	4,504	404,016	456,332	55,183	73,051	10,228	5,155	146,678	Sept.
Oct.....	1,085,787	15,186	1,100,973	5,289	452,722	486,608	64,698	76,470	11,748	3,438	144,160	Oct.
Nov.....	1,097,108	15,434	1,112,542	9,580	473,552	467,458	70,246	76,272	13,100	2,334	128,041	Nov.
Dec.....	1,127,746	18,538	1,146,284	8,910	470,317	493,418	74,095	81,006	14,823	3,715	127,568	Déc.
Total.....	11,759,455	166,763	11,926,218	56,627	4,807,632	5,311,114	683,245	870,837	129,689	37,074	1,506,090	Total.
1927												1927
Jan.....	1,114,673	17,313	1,131,986	9,335	458,883	490,179	77,619	78,657	13,643	3,670	130,894	Janv.
Feb.....	1,050,777	15,793	1,066,570	9,038	453,160	438,087	77,421	73,071	11,820	3,967	121,829	Fév.
March.....	1,134,358	16,223	1,150,581	11,022	496,012	473,423	81,303	72,598	11,800	4,423	133,702	Mars.
April.....	1,095,261	15,075	1,110,336	9,650	489,349	447,277	76,248	72,737	11,024	4,051	129,709	Avril.
May.....	1,102,464	13,768	1,116,232	7,038	503,566	443,576	73,979	74,305	10,482	3,286	132,439	Mai.
June.....	1,096,897	13,201	1,110,098	5,599	509,764	443,664	64,953	72,917	10,249	2,952	139,439	Juin.
July.....	1,092,837	14,572	1,107,409	4,806	517,373	430,298	64,808	75,552	10,549	4,023	138,085	Juillet.
Aug.....	1,217,276	15,558	1,232,834	8,077	561,292	492,479	71,902	83,026	11,007	4,474	157,197	Août.
Sept.....	1,184,954	15,850	1,200,804	6,396	551,461	471,868	75,009	80,220	11,676	4,151	154,047	Sept.
Oct.....	1,297,158	19,203	1,316,361	8,937	616,227	498,331	87,717	85,946	12,814	4,389	142,991	Oct.
Nov.....	1,295,667	21,969	1,317,636	10,167	606,904	492,833	99,148	86,615	14,516	7,453	129,414	Nov.
Dec.....	1,347,691	22,658	1,370,349	10,686	639,749	504,605	100,776	91,875	16,609	6,049	130,558	Déc.
Total.....	14,039,013	201,183	14,240,196	100,751	6,403,740	5,627,120	950,883	947,519	146,195	54,9881	632,614	Total.
1928												1928
Jan.....	1,306,298	20,245	1,326,543	10,908	613,339	492,035	96,676	93,340	15,815	4,930	124,023	Janv.
Feb.....	1,264,178	17,852	1,282,030	10,342	604,439	469,216	92,359	87,822	13,613	4,239	122,906	Fév.
March.....	1,324,612	17,939	1,342,551	10,785	621,465	499,059	100,638	92,665	14,113	3,826	135,961	Mars.
April.....	1,254,791	17,147	1,271,938	9,817	601,969	464,844	92,658	85,501	13,750	3,397	122,154	Avril.
May.....	1,264,792	16,019	1,280,811	9,643	600,568	487,733	85,447	81,401	12,257	3,762	134,830	Mai.
June.....	1,228,235	14,089	1,242,324	9,452	596,804	462,239	83,252	76,488	11,251	2,838	127,409	Juin.
July.....	1,233,410	14,955	1,248,365	9,266	614,556	448,102	82,121	79,365	11,699	3,256	130,124	Juillet.
Aug.....	1,297,731	15,825	1,313,556	8,212	637,862	478,979	86,367	86,311	12,631	3,194	145,678	Août.
Sept.....	1,261,501	18,931	1,280,432	6,455	608,132	472,256	90,594	84,064	12,911	6,020	129,501	Sept.
Oct.....	1,439,477	20,971	1,460,448	8,571	724,509	503,032	108,044	95,321	15,922	5,049	154,627	Oct.
Nov.....	1,416,958	24,562	1,441,520	10,834	737,298	498,711	75,414	94,701	19,207	5,355	137,801	Nov.
Dec.....	1,413,388	27,541	1,440,929	12,401	714,213	505,131	79,335	102,308	21,378	6,163	122,734	Déc.
Total.....	15,705,371	236,076	15,931,447	116,686	7,675,154	5,781,339	1,072,905	1,059,287	174,047	52,029	1,387,757	Total.
1929												1929
Jan.....	1,478,953	28,920	1,507,873	14,242	728,703	516,574	117,592	101,842	21,835	7,085	114,267	Janv.
Feb.....	1,315,207	31,282	1,346,489	14,341	645,934	470,824	103,364	80,744	18,546	12,736	110,645	Fév.
March.....	1,440,734	29,786	1,470,520	15,995	714,729	514,451	105,704	89,855	18,206	11,580	126,648	Mars.
April.....	1,378,557	30,524	1,409,081	15,677	685,180	493,997	97,453	86,250	19,527	10,997	110,692	Avril.
May.....	1,431,806	24,881	1,456,687	15,424	709,909	517,402	101,418	87,653	16,414	8,467	112,302	Mai.
June.....	1,360,875	17,249	1,378,124	14,543	677,920	492,233	87,191	88,988	13,626	3,623	119,394	Juin.
July.....	1,392,857	17,852	1,410,709	14,813	696,621	506,577	86,941	87,905	14,211	3,641	128,601	Juillet.
Aug.....	1,425,572	16,363	1,441,935	15,109	713,519	515,994	88,019	92,931	14,897	4,466	133,159	Août.
Sept.....	1,455,053	22,064	1,477,117	14,155	746,647	506,352	95,257	92,642	15,044	7,020	136,301	Sept.
Oct.....	1,559,042	35,241	1,594,283	16,597	813,794	529,568	105,049	94,034	19,654	15,587	122,360	Oct.
Nov.....	1,559,178	35,870	1,595,048	16,989	797,314	542,228	111,318	91,329	18,138	17,732	124,029	Nov.
Dec.....	1,496,600	38,431	1,535,031	17,315	746,934	532,318	117,079	82,954	19,958	18,473	102,091	Déc.
Total.....	17,294,434	331,463	17,625,897	185,200	8,677,204	6,138,488	1,216,415	1,077,127	210,056	121,407	1,444,402	Total.

CENTRAL ELECTRIC STATIONS

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OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA—Concluded
 PRODUCTION DES USINES ELECTRIQUES CENTRALES EN CANADA—Fin

(B) AVERAGE DAILY OUTPUT—MOYENNE DE PRODUCTION QUOTIDIENNE

(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

Month	Totals for Canada Totaux pour le Canada			Generated by Water-Power Générés par pouvoir hydraulique					Generated by Fuel Générés par combustible		Total Exports Total, exportations	Mois
	Water Eau	Fuel Com- bustible	Total	Maritime Provinces — Provinces maritimes	Quebec — Québec	Ontario	Prairie Provinces — Provinces des prairies	British Columbia — Colombie Britannique	Prairie Provinces — Provinces des prairies	Other Provinces — Autres provinces		
1926												1926
Jan.....	30,195	497	30,692	225	11,361	14,255	1,990	2,364	391	106	3,646	Janv.
Feb.....	30,589	502	31,091	264	11,516	14,361	1,983	2,464	365	137	3,503	Fév.
March.....	30,308	411	30,719	301	11,558	14,046	1,946	2,457	341	70	3,578	Mars.
April.....	29,701	367	30,068	231	11,632	13,860	1,788	2,190	310	57	3,857	Avril.
May.....	30,643	355	30,998	260	12,898	13,756	1,599	2,130	299	56	3,852	Mai.
June.....	31,997	395	32,392	218	13,567	14,361	1,588	2,263	303	92	4,245	Juin.
July.....	30,742	434	31,176	225	13,289	13,523	1,441	2,264	309	125	4,265	Juillet.
Aug.....	31,282	410	31,692	199	13,105	14,051	1,484	2,443	310	100	4,608	Août.
Sept.....	33,103	512	33,615	150	13,467	15,212	1,399	2,435	341	171	4,889	Sept.
Oct.....	35,025	490	35,515	170	14,604	15,097	2,087	2,467	379	111	4,650	Oct.
Nov.....	36,570	515	37,085	319	15,785	15,582	2,342	2,542	437	78	4,268	Nov.
Dec.....	36,379	598	36,976	287	15,172	15,917	2,390	2,613	478	120	4,115	Déc.
Average..	32,218	457	32,675	237	13,172	14,551	1,872	2,386	355	102	4,126	Moyenne.
1927												1927
Jan.....	35,957	558	36,515	301	14,803	15,812	2,504	2,537	440	118	4,222	Janv.
Feb.....	37,527	564	38,091	323	16,184	15,645	2,765	2,610	422	142	4,351	Fév.
March.....	36,592	523	37,115	356	16,000	15,271	2,623	2,342	381	142	4,313	Mars.
April.....	36,509	502	36,011	322	16,311	14,910	2,542	2,424	367	135	4,327	Avril.
May.....	36,563	444	36,007	227	16,244	14,309	2,386	2,397	338	106	4,024	Mai.
June.....	36,563	440	37,003	186	16,992	14,788	2,165	2,432	332	98	4,648	Juin.
July.....	35,252	470	35,722	155	16,689	13,880	2,091	2,437	340	130	4,454	Juillet.
Aug.....	39,266	502	39,768	261	18,106	15,902	2,319	2,678	355	147	5,071	Août.
Sept.....	39,498	528	40,026	213	18,382	15,729	2,500	2,674	389	139	5,131	Sept.
Oct.....	41,844	619	42,463	288	19,878	16,076	2,829	2,773	413	206	4,613	Oct.
Nov.....	43,189	732	43,921	339	20,230	16,428	3,305	2,887	484	218	4,314	Nov.
Dec.....	43,473	731	44,204	345	20,637	16,277	3,250	2,964	536	195	4,211	Déc.
Average..	38,438	551	38,989	276	17,544	15,417	2,605	2,596	400	151	4,473	Moyenne.
1928												1928
Jan.....	42,138	653	42,791	352	19,785	15,872	3,118	3,011	494	159	4,001	Janv.
Feb.....	43,592	615	44,207	357	20,843	16,179	3,185	3,028	469	146	4,238	Fév.
March.....	42,729	579	43,308	348	20,047	16,099	3,246	2,989	455	124	4,386	Mars.
April.....	41,826	571	42,397	327	20,066	15,494	3,089	2,850	458	113	4,072	Avril.
May.....	40,799	517	41,316	311	19,373	15,733	2,756	2,626	396	120	4,349	Mai.
June.....	40,941	470	41,411	315	19,893	15,409	2,775	2,549	375	95	4,247	Juin.
July.....	39,787	482	40,269	299	19,824	14,455	2,649	2,560	377	105	4,198	Juillet.
Aug.....	41,862	510	42,372	265	20,576	15,450	2,786	2,785	407	103	4,699	Août.
Sept.....	42,050	631	42,681	215	20,271	15,742	3,020	2,802	431	200	4,317	Sept.
Oct.....	46,435	676	47,111	276	23,371	16,228	3,485	3,075	514	162	4,985	Oct.
Nov.....	47,232	819	48,051	361	24,576	16,624	2,514	3,157	640	179	4,575	Nov.
Dec.....	45,593	888	46,481	400	23,040	16,294	2,559	3,300	695	199	3,959	Déc.
Average..	42,911	618	43,529	319	20,970	15,796	2,932	2,894	476	142	4,338	Moyenne.
1929												1929
Jan.....	47,708	933	48,641	459	23,507	16,664	3,793	3,285	704	229	3,689	Janv.
Feb.....	46,971	1,117	48,088	512	23,069	16,815	3,691	2,884	662	455	3,952	Fév.
March.....	46,475	961	47,436	516	23,056	16,595	3,410	2,898	587	574	4,083	Mars.
April.....	45,952	1,017	46,969	523	22,839	16,467	3,248	2,875	651	366	3,690	Avril.
May.....	46,187	803	46,990	498	22,900	16,090	3,272	2,827	530	273	3,628	Mai.
June.....	45,362	575	45,937	485	22,597	16,408	2,906	2,966	454	121	3,980	Juin.
July.....	44,931	575	45,506	478	22,472	16,341	2,804	2,836	458	117	4,148	Juillet.
Aug.....	45,986	624	46,610	487	23,017	16,644	2,840	2,998	480	144	4,295	Août.
Sept.....	48,592	735	49,327	472	24,888	16,879	3,175	3,088	501	234	4,548	Sept.
Oct.....	50,291	1,137	51,428	535	26,251	17,083	3,389	3,093	634	503	4,076	Oct.
Nov.....	51,973	1,195	53,168	566	26,577	18,074	3,711	3,045	604	591	4,134	Nov.
Dec.....	48,278	1,239	49,517	558	24,095	17,172	3,777	2,676	643	596	3,290	Déc.
Average..	47,382	908	48,290	507	23,773	16,818	3,333	2,951	575	333	3,957	Moyenne.

CANADA
MINISTÈRE DU COMMERCE
BUREAU FÉDÉRAL DE LA STATISTIQUE
SECTION DES TRANSPORTS ET UTILITÉS PUBLIQUES

RECENSEMENT INDUSTRIEL, 1928

USINES ÉLECTRIQUES CENTRALES AU CANADA

Préparé en collaboration avec le Service des forces Hydrauliques, du Drainage
et de l'Irrigation du ministère de l'Intérieur, et avec le concours de la
Commission Hydroélectrique d'Ontario, la Commission des
Eaux Courantes de Québec, la Commission de l'Énergie
Électrique du Nouveau-Brunswick, la Commission
de la Force Motrice de la Nouvelle-Écosse et
la Commission de la Force Motrice
du Manitoba)

Publié par ordre de l'Hon. James Malcolm, M.P.
Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1930

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PRÉFACE

Les données sur la génération et la distribution de l'électricité au Canada sont colligées et compilées par le Bureau, en vertu de la Loi de la Statistique, 8-9, George V, chap. 43.

Le personnel du Service des Forces Hydrauliques, du Drainage et de l'Irrigation, du ministère de l'Intérieur, a bien voulu vérifier les réponses au questionnaire et mettre à point le présent rapport conformément à une entente convenue lors de l'institution de notre recensement annuel des industries. Le Bureau doit aussi ses remerciements au Service d'Inspection de l'Electricité et du Gaz, du ministère du Commerce, ainsi qu'aux différentes commissions provinciales d'énergie électrique.

Un autre rapport annuel est aussi publié par le Service d'Inspection de l'Electricité et du Gaz du Ministère du Commerce, donnant les noms de toutes les compagnies enregistrées sous la Loi d'Inspection de l'Electricité, avec le type de force primaire, la phase, la fréquence et le voltage de chaque réseau et le nombre de compteurs dans chaque municipalité.

R. H. COATS,
Statisticien du Dominion.

BUREAU FÉDÉRAL DE LA STATISTIQUE,
OTTAWA, 26 mai 1930.

NOTICE SUR LES FORGES HYDRAULIQUES DU CANADA

Par le Service des Forces hydrauliques, du Drainage et de l'Irrigation

Les ressources hydrauliques du Canada constituent un actif national de la plus haute importance; leur caractère, leur étendue et leur situation leur impriment une valeur spéciale par rapport aux principaux centres industriels. Chaque province canadienne a ses pouvoirs d'eau et cette énergie, en dehors du facteur humain, est le levier principal du développement industriel au Canada. Il est évident qu'elle exerce une influence considérable sur l'étendue et le sens de ce développement et le Canada continuera à progresser comme pays industriel de première importance par suite de l'abondance d'énergie à bas prix provenant de ses grandes ressources hydrauliques.

Le développement d'un grand nombre de ressources naturelles au Canada dépend de l'utilisation de ses pouvoirs d'eau; il en est ainsi surtout du développement des industries minières, de la pulpe et du papier. On est frappé du fait que plus de 98 p.c. de l'énergie électrique destinée au service public provient des pouvoirs d'eau.

Conformément aux stipulations de l'Acte de l'Amérique britannique du Nord, de 1867, l'administration des pouvoirs d'eau au Canada relève tant du gouvernement fédéral que des provinces.

L'autorité fédérale sur le développement des forces hydrauliques s'exerce surtout dans les provinces de l'Alberta, de la Saskatchewan et du Manitoba, ainsi que dans le Yukon et les Territoires du Nord-Ouest; le contrôle administratif relève du Service des Forces hydrauliques, du drainage et de l'Irrigation, ministère de l'Intérieur, qui, en même temps, poursuit des travaux d'enquête dans le reste du pays en coopération avec les autorités provinciales qui sont responsables de ces ressources dans leurs provinces respectives. Lorsqu'il s'agit de projets d'emmagasinement des eaux pour des fins de canaux, c'est le ministère des Chemins de fer et Canaux qui fait autorité, tandis que celui des Travaux publics est chargé de la protection des systèmes de navigation à travers le pays et, de ce fait, administre le développement des cours d'eau navigables en matière d'emmagasinement des eaux et de développement hydraulique.

Étant donné que les terres dans les provinces de la Colombie Britannique, de l'Ontario, du Québec, du Nouveau-Brunswick et de l'Île du Prince-Édouard, étaient la propriété de ces provinces avant la Confédération, le contrôle administratif des forces hydrauliques situées dans ces provinces relevait nécessairement des diverses assemblées législatives, le ministère des Terres étant chargé de l'administration active de ces pouvoirs d'eau dans la Colombie Britannique⁽¹⁾, celui des Terres et Forêts en Ontario, le même dans le Québec, celui des Terres et Mines au Nouveau-Brunswick, en Nouvelle-Écosse par le Commissaire des Travaux Publics et des Mines; dans l'Île du Prince-Édouard par le Commissaire des Travaux Publics.

Au Manitoba, en Ontario, au Nouveau-Brunswick et en Nouvelle-Écosse, des commissions ont été nommées en vue de développer ou d'acheter des pouvoirs d'eau et pour distribuer ou transmettre l'énergie électrique. Dans ce domaine le développement intense s'est fait en Ontario par l'entremise de la Commission d'Énergie hydro-électrique établie en 1905. En général, cette Commission agit comme administrateur pour les municipalités qui, conjointement, entreprennent l'achat ou le développement de l'énergie hydro-électrique; elle agit aussi à titre de fiduciaire pour le gouvernement provincial, les opérations financières étant garanties par le gouvernement. Les Commissions d'énergie

⁽¹⁾ Dans la zone du chemin de fer en Colombie Britannique les pouvoirs d'eau appartiennent au gouvernement fédéral, bien que ceux-ci soient aujourd'hui administrés sous l'empire d'une loi provinciale des pouvoirs hydrauliques.

du Manitoba et de la Nouvelle-Ecosse, établies en 1919, et celle du Nouveau-Brunswick en 1920, remplissent à peu près les mêmes fonctions que la Commission d'Énergie hydro-électrique de l'Ontario. Dans la province de Québec, la Commission des Eaux courantes exerce ses activités sur l'inspection des rivières et sites de pouvoirs d'eau ainsi que dans la construction des bassins d'emmagasinement pour des fins d'énergie hydraulique.

Le développement des pouvoirs hydrauliques s'est continué en activité en 1929, l'installation de 377,940 h.p. ayant porté à 5,727,162 h.p. la production totale d'énergie hydraulique du Canada, et l'on s'occupe activement de l'installation de 3,000,000 h.p. additionnels. Cette poussée des stations électriques centrales vers le développement actif, si remarquée ces dernières années, s'est particulièrement manifestée en 1929 puisque, sauf l'installation de 5,850 h.p. par deux compagnies de pulpe et de papier, ainsi que le remplacement de turbines dans une usine de tricotage donnant un surplus de 287 h.p., la totalité du pouvoir installé, soit 377,930 h.p., était destinée à la distribution publique.

Comme au cours de chacune des six dernières années, Québec a tenu le premier rang en matière de nouvel outillage mis en opération. D'un total de 208,312 h.p. de nouveau matériel installé dans cette province au cours de l'année, deux seuls item formant un total de 637 h.p. ont été installés par des industries particulières, le reste se composant d'additions à d'anciennes stations électriques ou de nouveaux établissements.

La Gatineau Power Company a ajouté une unité à chacune de ses stations de Chelsea et de Farmers sur la rivière Gatineau, et une à sa station de Bryson sur la rivière Ottawa, soit une addition totale de 83,000 h.p. La Shawinigan Water and Power Company a ajouté une unité de 43,000 h.p. à sa station N° 2 de Shawinigan Falls. La Montreal Island Power Company a complété son installation initiale de 72 h.p. à ses usines sur la rivière des Prairies. La cité de Sherbrooke a complété son installation de 5,800 h.p. à ses usines de Westbury sur la rivière St-François, et l'a raccordée à son réseau municipal. La Southern Canada Power Company a mis en opération une usine de 2,000 h.p. sur la rivière Nigger, près de Ayers Cliff, et plusieurs autres installations de moindre importance complétèrent le total.

En Ontario on a installé 48,350 h.p. au cours de l'année. La International Nickel Company du Canada a complété son installation de 28,200 h.p. à l'écluse Big Eddy sur la rivière des Espagnols, tandis que la Algoma District Power Company a installé la première unité de 11,000 h.p. d'une usine qui doit remplacer celle de 1,600 h.p. à High Falls sur la rivière Michipicoten. La Commission d'Énergie hydro-électrique de l'Ontario a installé trois nouvelles stations au cours de l'année, la plus grande, celle de Ear Falls sur la rivière des Anglais, donnant un rendement de 5,000 h.p.; une autre de 2,200 h.p. aux chutes Trethewey sur la South Muskoka et une de 1,800 h.p. à la chute Elliott sur la rivière du Sud. La reconstruction de l'usine de la Chapleau Electric Light and Power Company, sur la rivière Kebaquashing, a donné une augmentation nette de 150 h.p.

Dans l'Alberta, la Calgary Power Company a complété et mis en opération une nouvelle usine, sa troisième sur la rivière à l'Arc, avec une installation de 36,000 h.p. au site des Fantômes.

Dans les Provinces Maritimes le gros développement hydro-électrique s'est manifesté d'une façon particulière au Nouveau-Brunswick et en Nouvelle-Ecosse, la nouvelle installation dans chaque province excédant celle de toute année précédente. La St-John River Power Company a ajouté ses deuxième et troisième unités de 20,000 h.p. chacune à son usine de Grand Falls, Nouveau-Brunswick, tandis que la Bathurst Power & Paper Company a ajouté une unité de 5,500 h.p. à son usine de la rivière Nipisiguit dans cette même province. La Commission d'Énergie de la Nouvelle-Ecosse a complété trois usines sur la rivière Mersey donnant un rendement total de 30,900 h.p. et une autre sur la rivière Tusket dont l'installation est de 3,000 h.p. La «Avon River Power

Company» a complété une petite usine de 500 h.p. sur la rivière Fall ainsi que l'addition d'une unité de 368 h.p. dans une de ses usines sur la rivière de l'Est qu'elle avait achetée de la Chester Light and Power Company.

En Colombie Britannique, bien que la totalité du nouvel outillage mis en opération au cours de l'année fut la plus petite depuis plusieurs années, beaucoup d'activité s'est manifestée dans l'exécution ou l'étude de nouveaux projets de construction. Une des compagnies filiales de la British Columbia Power Corporation, la «Vancouver Island Power Company», a complété une installation de 2,000 h.p. à son écluse de détournement de la rivière Jordan, tandis que la Cité de Nelson a ajouté une unité de 3,000 h.p. à son usine de Upper Bonnington Falls sur la rivière Kootenay. Ce furent les seules installations complétées au cours de l'année.

Le Service des Forces hydrauliques, du Drainage et de l'Irrigation du Canada, avec la coopération des organisations provinciales responsables, a perfectionné un système coordonné d'analyse des forces hydrauliques en vue de présenter les ressources hydrauliques du Dominion sur une base fiable et uniforme. Comme résultat d'une nouvelle analyse et de calculs soignés faits par le Service, la totalité des ressources hydrauliques développées et disponibles du Canada est donnée dans le tableau suivant:

Provinces	Force motrice utilisable en 24 heures, à 80 p.c. du débit		Turbines installées, h.p.
	Au minimum habituel du débit	Au débit normal (pendant 6 mois)	
1	2	3	4
Colombie Britannique.....	1,931,000	5,103,500	559,792
Alberta.....	390,000	1,049,500	70,532
Saskatchewan.....	542,000	1,082,000	35
Manitoba.....	3,309,000	5,344,500	311,925
Ontario.....	5,330,000	6,940,000	1,952,055
Québec.....	8,459,000	13,064,000	2,595,430
Nouveau-Brunswick.....	68,600	169,100	112,631
Nouvelle-Ecosse.....	20,800	128,300	109,124
Ile du Prince-Edouard.....	3,000	5,300	2,439
Territoires du Yukon et du Nord-Ouest.....	294,000	731,000	13,199
Total.....	20,347,400	33,617,200	5,727,162

Les chiffres aux colonnes 2 et 3 sont basés sur les rapides, chutes et emplacements de pouvoir dont la chute ou la tête concentrable est définitivement connue et suffisamment établie. Il existe encore bien des chutes de plus ou moins grande capacité, d'un océan à l'autre, qui ne sont pas encore enregistrées. La proportion entre les usines installées et la somme de pouvoir à développer, indique que les ressources hydrauliques du Dominion, telle qu'enregistrées, permettraient l'installation de turbines capables de développer 43 millions de chevaux-vapeur.

Les chiffres cités au tableau ci-haut peuvent être considérés comme représentant le minimum de l'actif en ressources hydrauliques du Dominion. A titre d'exemple, l'analyse détaillée des ressources hydrauliques au Nouveau-Brunswick et en Nouvelle-Ecosse indique que ces deux provinces possèdent, tenant compte de toutes les facilités d'emmagasinement qui y existent, de 200,000 à 300,000 h.p. d'énergie commerciale au moins.

Avec un développement de 584 chevaux-vapeur par 1,000 de population, le Canada est bien en avant des autres pays en matière de l'utilisation et la disponibilité d'énergie hydro-électrique. Les immenses réserves de force hydraulique non encore exploitées sont la base du développement futur des autres ressources naturelles, surtout si elles sont convenablement combinées avec le développement et l'utilisation de nos ressources de combustible si connues.

INDUSTRIE DES USINES ELECTRIQUES CENTRALES, 1928

Le recensement de l'industrie des usines électriques centrales au Canada se fait chaque année sous l'empire de la Loi de la Statistique de 1918 (8-9, George V, chap. 43), au moyen de questionnaires ou cédulas adressés à toutes les usines électriques centrales. Nuls renseignements sont obtenus sur place par des fonctionnaires du Bureau, mais tous les questionnaires retournés sont examinés et révisés par des préposés du Bureau; s'il manque quelques détails d'information on les obtient par correspondance.

Pour les fins de ce recensement, les usines électriques centrales sont définies comme compagnies, municipalités ou individus vendant ou distribuant de l'énergie électrique, soit produite par elles ou achetée pour la revente. Ces stations sont divisées en deux catégories selon les titres de propriété, savoir, (a) commerciales, celles qui sont exploitées par des compagnies ou des individus, et (b) municipales, celles qui sont exploitées par des gouvernements municipaux, provinciaux ou fédéral. Elles sont encore réparties, par rapport à leurs fonctions, en (a) génératrices, celles qui produisent l'énergie qu'elles vendent et (b) non-génératrices, celles qui achètent toute l'énergie qu'elles vendent. Dans le premier cas, il y a plusieurs usines qui achètent l'énergie en vue de compléter leur rendement. Dans la seconde catégorie, il y a 13 stations qui détiennent tout l'équipement générateur classé comme outillage d'usine auxiliaire; de ce nombre, dix achètent toute leur énergie électrique et les trois autres ne produisent que 1,344,000 kilowatt-heures. Ceci explique l'étrange item qui se trouve au tableau 14 montrant le rendement d'usines non-génératrices.

Ces statistiques comprenant encore les chiffres concernant quelques usines premièrement engagées dans d'autres industries, telles que les mines, la fabrication de la pulpe et du papier, etc., qui vendent l'énergie de surplus. Pour cette catégorie d'usines, la statistique concernant les usines centrales électriques a été isolée aussi exactement que possible.

L'explication de ce qui est compris dans chacun des tableaux, comme ce que comprend chaque item, sera donnée plus loin en expliquant les détails des tableaux 3 à 15 inclusivement.

La croissance de l'industrie, comme l'indique le rendement, a été rapide et assez constante. En 1920, le rendement était de 5,894,867,000 kilowatt-heures, et en 1928 il avait augmenté de 177 pour cent, et une année seulement sur les huit il y avait une diminution de rendement, c'est-à-dire en 1921 alors que le rendement fut 5 p.c. de moins que celui de l'année précédente; mais en 1922, 1923, 1926 et 1927, il accusait une augmentation annuelle de 20 p.c., comme l'indique le tableau ci-dessous. La grande augmentation de rendement dans les usines municipales, ainsi que la diminution de production dans les usines commerciales en 1923, fut en partie le résultat de l'achat du système de la Toronto Power Company par la Commission d'Énergie Hydro-électrique de l'Ontario.

RENDEMENT DES USINES CENTRALES ÉLECTRIQUES

(En milliers de kilowatt-heures)

Année	Augmentation sur l'année précédente	Total	Usines commerciales	Usines municipales
	p.c.			
1928.....	12	16,337,804	11,460,974	4,876,830
1927.....	20	14,549,099	9,944,422	4,604,677
1926.....	20	12,093,445	7,797,480	4,295,965
1925.....	9	10,110,459	6,527,103	3,583,356
1924.....	15	9,315,277	6,024,312	3,290,965
1923.....	20	8,099,192	5,074,120	3,025,072
1922.....	20	6,740,750	5,119,676	1,621,074
1921.....	— 5	5,614,132	4,316,272	1,297,860
1920.....	7	5,894,867	4,456,428	1,438,439
1919.....		5,497,204	4,191,223	1,305,981

dans tous ces établissements, les moteurs fonctionnant au moyen de l'énergie achetée d'usines électriques centrales en 1928 donnait un rendement total de 859,017 h.p., soit 36 p.c. du rendement total de tous les moteurs employés dans les industries minières et manufacturières du Canada et utilisant de l'énergie électrique achetée. Depuis 1920, ces moteurs employés dans les établissements de pulpe et de papier ont augmenté, en nombre, de 520 p.c., et du fait qu'ils fonctionnent approximativement 24 heures par jour, comparativement à 8 ou 10 heures dans la plupart des industries manufacturières, le chiffre de leur consommation était encore plus élevé que ne l'indique le relevé cité. En outre, depuis plusieurs années, ces usines ont acheté, pour leurs chaudières électriques, de grandes quantités d'énergie non utilisée en temps normal ou provenant d'une baisse dans les opérations. Le tarif de vente de cette énergie de surplus est très bas, mais le revenu qu'on retire de cette vente aide à payer les charges du capital jusqu'à ce que des marchés plus favorables aient été développés.

L'augmentation du capital nanti s'est manifestée d'une façon plus frappante en 1927; sous ce rapport les années 1926 et 1928 tiennent les deuxième et troisième rangs. Sous le rapport du rendement, c'est en 1927 que s'est produite la grande augmentation, 1926 et 1928 occupant encore les deuxième et troisième rangs respectivement. Cependant, l'augmentation du nombre de clients fut plus forte en 1924, les années 1924 et 1928 occupant le deuxième et troisième rangs.

TABLEAU 2.—RÉSUMÉ DES PRINCIPALES DONNÉES, 1927-1928

Au cours de l'année l'augmentation du capital nanti était de \$90,094,318 et la somme totale de \$956,919,603 de capital engagé était plus grande que celle de toute autre industrie manufacturière. Plus de 95 p.c. de cette augmentation représente la somme placée dans les usines commerciales dont l'augmentation était de \$86,839,435. La plus grande augmentation se produisit dans la province de Québec, où la somme de \$63,170,036 fut nantie; le Nouveau-Brunswick suivit avec une augmentation de capital engagé s'élevant à \$11,716,337, chiffre qui représente plus du double de la somme totale placée dans cette industrie. Dans Québec les principales additions furent faites par la Gatineau Power Company qui a complété son installation à Pagan Falls sur la rivière Gatineau, comportant 6 unités de 34,000 h.p. chacune avec possibilité d'y ajouter 2 autres unités plus tard. De cette usine jusqu'à Toronto, une distance de 230 milles, elle a complété une ligne de transmission de 220 k.v. pour transmettre de l'énergie à 25 cycles à l'établissement de la Commission d'Énergie Hydro-Électrique de l'Ontario qui, en définitive, prendra un débit de 260,000 h.p. sur cette ligne et sur une ligne en double qui est maintenant en construction. La Commission et la Gatineau Power Company ont aussi construit une ligne de 110 k.v. et 44 k.v. pour la transmission d'énergie à 60 cycles à partir de Farmers Rapids et Chelsea, sur la rivière Gatineau, Québec, jusqu'à Kingston et Brockville, Ontario. Le contrat exigeait que le nombre de chevaux-vapeur fut de 6,000 au point de départ, avec augmentation jusqu'à 100,000 au point d'arrivée. La Gatineau Power Company a aussi complété le barrage Mercier, sous la surveillance de la Commission des Eaux courantes de Québec, en vue de régulariser le débit de la rivière Gatineau, et ajoutait une unité de 25,000 h.p. à son usine de Bryson avec une ligne de transmission de 110 k.v. de cette usine à Hull. La Shawinigan Water and Power Company ajouta une unité N° 7 de 43,000 h.p. à son usine N° 2 sur la rivière St-Maurice et entreprit l'installation de l'unité N° 8 de même capacité. Cette compagnie a aussi fait l'acquisition de droits provinciaux pour le développement de l'énergie sur la partie supérieure de la rivière St-Maurice. La totalité d'énergie s'élèvera à environ 1,000,000 de chevaux-vapeur et le contrat stipule une dépense d'au moins \$25,000,000, dont \$10,000,000 devront être déboursés et 100,000 h.p. développés avant le mois de juillet 1933. La Compagnie d'Énergie des Quinze a ajouté deux unités de 10,000 h.p. chacune, et la compagnie d'énergie Duke-

Price a ajouté une unité de 45,000 h.p. à son établissement de l'Île Maligne. La Montreal Island Power Company a avancé les travaux sur une installation de 104,000 h.p. sur la rivière des Prairies près de Montréal, mais le capital engagé dans ces entreprises n'a pas été inclus dans cette statistique, pas plus que les données relatives au développement de la compagnie James MacLaren sur la rivière Lièvre dont l'installation initiale est de 90,000 h.p. et les travaux fort avancés. Au Nouveau-Brunswick, l'augmentation principale a trait au développement du Grand Sault, qui en définitive, comprendra quatre unités de 20,000 h.p. chacune. En 1928 il n'y avait dans cette province qu'une seule unité en opération mais celle-ci représentait plus que le double de la capacité hydraulique pour la province. Jusqu'en 1928, il n'existait pas de stations hydrauliques dans la Saskatchewan, mais au cours de l'année la Churchill River Power Company a commencé les travaux sur le développement de la rivière Churchill à Island Falls; ces travaux avaient pour but de fournir de l'énergie aux mines Flin-Flon et Sherritt Gordon. Les détails complets des développements hydro-électriques sont compris dans le rapport annuel «Progrès Hydro-électrique au Canada» publié par le Service des Forces Hydrauliques, du drainage et de l'Irrigation, du ministère de l'Intérieur.

TABLEAU 3.—USINES GÉNÉRATRICES

La définition d'une usine centrale électrique, telle qu'adoptée pour les fins de ce recensement, est donnée au commencement de ce rapport, et d'après cette définition, le nombre d'organisations commerciales et municipales vendant de l'énergie électrique correspondrait au nombre d'usines. Cependant, quelques organisations exploitent plusieurs réseaux qui se trouvent dans des municipalités différentes et qui ne sont pas raccordés par des lignes de transmission, tandis que dans d'autres cas plusieurs municipalités sont desservies par une seule usine génératrice. Chaque organisation est inscrite comme une seule ou plusieurs, selon le rapport qu'elle fait. Si une organisation commerciale fait un rapport distinct pour chacune de ses compagnies subsidiaires, chaque telle compagnie subsidiaire est comptée comme une unité, tandis que si le rapport couvre toutes les compagnies, il n'est fait mention que d'une seule organisation. Le contrôle et le caractère en sont tellement variés qu'il ne serait pas pratique d'agir autrement. Les usines génératrices figurant dans ce tableau sont des usines individuelles, sans tenir compte du propriétaire ou de la localité. Dans certains cas, deux ou plusieurs usines sont exploitées par une compagnie, les unes se trouvant voisines ou à plusieurs milles de distance des autres.

Le nombre d'usines génératrices a diminué de 28, le chiffre de la plus grande augmentation étant de 9 en Colombie Britannique et celui de la plus grande diminution, de 26 en Alberta.

Au cours de l'année il y eut une réduction de 97 dans le nombre d'organisations produisant de l'énergie électrique pour la vente; ceci est dû évidemment à l'achat de petites usines par de plus fortes organisations. Ces consolidations offrent, dans la plupart des cas, des interraccordements qui permettent la transmission de plus grosses charges et une utilisation plus pratique de l'outillage, sans compter une source plus sûre d'énergie pour les consommateurs. Pendant l'année, quelques cinq compagnies ont fait l'acquisition de 79 petites usines dans l'Alberta et la Saskatchewan; dans quelques cas on a retenu les vieilles usines mais, d'une façon générale, on les a démolies et l'énergie fournie par de plus grandes usines au moyen de lignes de transmission raccordant plusieurs municipalités. Au cours de l'année aussi la Commission d'Énergie de la Saskatchewan a fait un rapport recommandant l'achat des usines municipales de Régina, de Moose Jaw et de Saskatoon en vue d'établir le noyau d'un réseau provincial et, comme premier pas dans cette direction, le gouvernement de la Saskatchewan est entré en pourparlers avec la municipalité de Saskatoon en vue de l'achat de son usine. Dans Québec, quatre grosses compagnies et leurs filiales, ont fait l'acquisition de plus de 25 organisations et des amalgamations

de moindre importance ont été effectuées dans d'autres provinces. Plus de 90 pour cent du rendement total a été produit par 17 grandes organisations dont la plus importante, la Commission d'Énergie Hydro-électrique de l'Ontario, a produit 25 p.c. de ce rendement, ce qui donne une idée assez exacte de l'étendue du contrôle de l'industrie au Canada.

TABLEAU 4.—CAPITAL

Le capital engagé dans l'industrie paraît sous quatre rubriques, savoir, génération, transmission, distribution et général. La génération comprend le capital nanti dans la construction des usines et leurs sites, les barrages, les portes d'écluse, les canaux de fuite, les réservoirs pour l'emmagasinement et le réglage du débit des eaux, réservoirs de surcharge et bassins d'emmagasinement, etc., ainsi que l'outillage des usines génératrices à l'exception de l'outillage de transmission et transformateurs d'accélération. La transmission comprend les argents dépensés dans la construction des usines de réception et leur établissement, les droits de passage des lignes de transmission et les transformateurs d'accélération. La distribution comprend les argents placés dans les sous-stations et leurs sites ainsi que le droit de passage des lignes de transmission, les tableaux de distribution et les transformateurs de ralentissement des stations des usines de réception et sous-stations, les lignes de distribution, les transformateurs de ligne, les compteurs, etc. L'Item «général» comprend les fonds placés dans les bureaux et leurs sites, l'ameublement, les matériaux et fournitures en main, l'argent en caisse, les comptes courants, frais d'opération et effets recevables. Le total représente tout le capital engagé dans l'industrie. Le capital total représente, au 31 décembre, les stations en exploitation, et ne comprend pas les placements faits par de nouvelles organisations non encore en opérations, mais, par contre, comprend les déboursés faits par ces organisations qui exploitent des usines en vue d'installations d'outillage futures. Par conséquent, les moyennes par cheval-vapeur et par k.v.a. sont augmentées par l'inclusion de tel capital. Ceci pourrait expliquer l'augmentation de la moyenne par k.v.a., y compris l'outillage auxiliaire; par exemple, dans Québec, une augmentation de \$195 en 1925 à \$212 en 1928; il est fort probable que, lorsqu'on aura installé l'outillage dans les usines de capacité totale projetée, ces moyennes auront diminué. Les moyennes de capital engagé par mille de ligne de distribution et de transmission, sont plus indicatives des divers types de ligne dans chaque province que celles du coût comparatif de ces divers types.

TABLEAU 5.—RECETTES

Les recettes paraissent sous deux en-têtes, (a) recettes provenant de la vente d'électricité pour fins d'éclairage, et (b) recettes provenant de la vente de courant pour fins d'énergie et à d'autres usines pour revente. Les usines sont priées de faire cette division dans leur rapport et d'en donner une estimation quand il est impossible de faire une répartition exacte. Il y a toujours entre différentes usines de forts échanges de courant, une certaine partie passant par jusqu'à trois usines avant d'atteindre le consommateur final. Il est donc évident que les recettes totales rapportées par les usines contiennent beaucoup de double emploi. Le revenu brut d'une usine individuelle a une certaine signification, mais le revenu brut d'un groupe de stations, comprenant de fortes sommes qui sont les paiements de quelques-unes des stations de ce groupe à d'autres stations dans le même groupe, ne peut qu'établir la confusion à moins que le montant du double emploi soit clairement montré. Pour cette raison les recettes brutes ne paraissent pas dans ce rapport et chaque fois qu'il est question de recettes il faut comprendre qu'il s'agit de recettes nettes. Les recettes nettes sont le revenu total d'une usine moins les montants payés par elle pour le courant échangé entre usines et en conséquence ne sont que les montants payés par les consommateurs.

Les recettes pour l'année s'élevaient à \$112,326,819, soit une augmentation de 8 p.c. sur les recettes de 1927 qui se chiffraient à \$8,293,522. La moyenne des recettes par kilowatt-heure d'énergie générée a été de .59 cents contre .72 en 1927. Ce sont les usines de Québec qui ont donné la plus basse moyenne, celle de .47 cents; vinrent ensuite celles du Manitoba avec .56 cents, puis celles de l'Ontario avec une moyenne de .79 cents. Ces moyennes s'appliquent à l'énergie générée, y compris les pertes de courant sur les lignes et transformateurs qui, sur certains réseaux, s'élèvent parfois à 25 p.c. dans le cas de lignes de transmission à long parcours, et non au courant tel que calculé aux compteurs des consommateurs. Elles sont encore affectées par la quantité d'énergie vendue à de gros consommateurs, surtout à ceux qui utilisent le courant 24 heures par jour, ainsi que par celle de l'énergie de surplus et de sur-utilisation vendue aux fabriques de pulpe. On ne doit pas considérer ces moyennes comme représentant le coût de l'énergie électrique au point de vue du consommateur, ni encore comme le coût relatif, sauf d'une façon bien générale. Vu que le coût à l'unité varie avec la nature ou le degré de la charge et avec la somme d'énergie consommée, le seul mode exact de calcul du coût dans les diverses provinces ou municipalités est de comparer le coût d'une charge spécifique avec celui de la quantité consommée. La recette moyenne par consommateur d'énergie a été de \$2,365 dans Québec, de \$1,720 dans Ontario, de \$1,330 dans la Colombie Britannique, de \$894 dans le Nouveau-Brunswick, de \$765 dans l'Île du Prince-Edouard, de \$587 dans la Nouvelle-Ecosse, de \$579 dans le Manitoba, de \$428 dans l'Alberta et de \$411 dans la Saskatchewan. Cependant, ces moyennes ne donnent qu'une idée générale de la grosseur relative d'une charge moyenne d'énergie ainsi que du nombre de kilowatt-heures utilisées par consommateur, car étant donné le système de diminuer le prix à l'unité dans la mesure de l'augmentation de la charge et de la consommation, la marge entre les moyennes d'énergie consommée par consommateur serait plus grande que celle qui serait applicable à la moyenne des comptes d'énergie utilisée.

TABLEAU 6.—DÉPENSES

Les dépenses qui se chiffrent à \$62,330,860 ne comprennent que quatre item: les salaires, le combustible, les taxes et le coût de l'énergie, ce dernier représentant une dépense interindustrielle encourue complètement par suite de la méthode de distribution. Du coût total de l'énergie, plus de 62 p.c. a été payé par les stations ontariennes, surtout par les municipalités qui achètent l'énergie de la Commission provinciale. La somme des salaires a augmenté de \$1,141,105 et celle des taxes de \$462,020. Le coût de l'énergie, se chiffrant à \$31,365,636, a été déduit du chiffre de recettes brutes rapporté par les diverses stations en vue d'établir le détail des recettes indiqué au tableau 5.

TABLEAU 7.—PERSONNEL

Les usines sont priées de faire rapport de tous leurs employés et de tous les salaires, et lorsqu'un employé est engagé dans d'autres occupations, tel celui qui travaille dans la division de l'éclairage électrique ou au département de l'aqueduc d'une municipalité, on alloue pour son temps partiel. Le nombre d'employés à gages est la moyenne mensuelle et par conséquent indique l'influence des variations saisonnières. Le nombre d'employés a augmenté de 1,147, ou 7.8 p.c., tandis que le chiffre des salaires a augmenté de 5 p.c. Dans les stations commerciales, cette augmentation a été de 1,024, y compris une augmentation de 364 dans les usines de Québec, de 118 en Ontario, de 195 au Manitoba, de 120 en Saskatchewan, de 143 en Alberta et des augmentations moins fortes dans les autres provinces. Dans les usines municipales, l'augmentation totale du nombre d'employés a été de 123.

TABLEAU 8.—CONSOMMATEURS

Les consommateurs sont répartis en trois catégories, savoir: d'éclairage domestique—les personnes qui achètent l'électricité pour l'éclairage des résidences; d'éclairage commercial—ceux qui achètent l'éclairage de magasins, de bureaux, de manufactures, d'édifices publics, etc.; d'énergie industrielle—ceux qui l'achètent pour le fonctionnement des machines ou le chauffage commercial. Certaines stations maintiennent des compteurs séparés pour le chauffage de l'eau à domicile, pour la réfrigération électrique et autres services domestiques ainsi que pour l'éclairage, mais les instructions demandent de rapporter chaque résidence ou ménage achetant de l'électricité comme acheteur séparé d'énergie pour fins domestiques, sans tenir compte du nombre de compteurs ou services. Il en résulte que cette statistique repose sur la même base pour chaque station, même dans le cas où les méthodes de comptage ou de facturation sont différentes. La méthode de vendre l'énergie électrique pour des fins d'éclairage ou d'industrie est à peu près la même dans chaque usine, bien que certaines d'entre elles maintiennent les mêmes taux pour l'éclairage domestique que pour l'éclairage commercial et de là établissent une moyenne entre les deux systèmes.

Cette année le nombre de consommateurs s'est élevé à 1,464,005, comparativement à 1,381,968 en 1927. Cette augmentation de 82,037 comprend 64,945 consommateurs d'électricité pour fins domestiques, 16,297 pour éclairage commercial et 795 pour énergie industrielle. Les usines commerciales ont servi 46 p.c. de la totalité des consommateurs, 45 p.c. des consommateurs d'électricité pour éclairage domestique, 51 p.c. des consommateurs d'éclairage commercial et 49 p.c. des consommateurs d'énergie industrielle; en même temps elles ont produit 70 p.c. du total de la production, ce qui indique que la moyenne de consommation par client de stations commerciales était beaucoup plus élevée que celle des clients de stations municipales. Le nombre moyen d'acheteurs d'électricité pour éclairage domestique par 100 de population, se basant sur l'estimation du Bureau quant à la population de 1928, était 12·50 pour le Canada, la Colombie Britannique montrant la plus grande densité provinciale de 19·57, l'Ontario, en deuxième lieu, avec 16·01, Québec, troisième, avec 13·00 et le Manitoba, quatrième, avec une moyenne de 11·00. L'Alberta, la Nouvelle-Ecosse et le Nouveau-Brunswick suivirent de près avec des moyennes de 8·29, 7·04 et 6·97 respectivement; la Saskatchewan et l'Île du Prince-Edouard comptaient 4·35 et 3·73 acheteurs d'électricité pour éclairage domestique par 100 de population. Il va sans dire que ces moyennes sont affectées par la différence de grandeurs dans les logements. La moyenne de personnes par ménage établie en 1921 donne le chiffre suivant de consommateurs d'éclairage domestique par 100 ménages: Colombie Britannique, 77·8; Québec, 68·3; Ontario, 67·9; Manitoba, 51·4; Nouveau-Brunswick, 34·8; Alberta, 33·8; Nouvelle-Ecosse, 33·7; Saskatchewan, 19·2; Île du Prince-Edouard, 17·6; et le Canada, 57·1. La concentration de la population dans les grandes villes constitue évidemment le facteur principal des hautes moyennes.

TABLEAU 9.—MILLES DE LIGNES SUR POTEAUX

La longueur en milles de lignes sur poteaux est répartie en deux divisions, (a) transmission qui comprend les lignes partant des usines génératrices pour atteindre les usines de réception, et (b) distribution qui comprend les lignes partant des stations de réception jusqu'aux sous-stations pour atteindre les consommateurs et, si le courant n'est pas intensifié dans une usine quelconque pour la transmission, toute la longueur de lignes de ce système est comprise dans le nombre de milles de lignes de distribution. Ces lignes sont mesurées sans tenir compte du nombre de circuits portés sur les poteaux ou pylones.

Le milage de ligne de transmission sur poteaux a augmenté de 2,081 milles, soit de 17 p.c. et celui de ligne de distribution, de 1,679 milles, ou 8 pour cent. Les plus fortes hausses sont dans l'Ontario avec une augmentation de 185 milles

de ligne de transmission et de 1,309 milles de ligne de distribution. L'Alberta accuse une augmentation de 993 milles de ligne de transmission sur poteaux, la Saskatchewan, une augmentation de 382 milles de ligne de transmission, pour la première fois, et une augmentation de 133 milles de ligne de distribution; les stations de Québec accusent une augmentation nette de 519 milles de ligne de transmission.

TABLEAUX 10-11-12.—OUTILLAGE

L'outillage des usines de génération est divisé en deux classes, les usines principales et les usines auxiliaires. Les usines auxiliaires comprennent tous les engins à vapeur, turbines à vapeur et engins à combustion interne ainsi que les dynamos mues par ces engins, dans les usines hydroélectriques, et tout l'outillage des usines non génératrices. Tout le reste de l'outillage est classifié comme appartenant à l'usine principale et comprend les roues hydrauliques et turbines ainsi que les générateurs mus par la force hydraulique dans les usines hydroélectriques et tout l'agencement dans les usines se servant exclusivement de combustible. Il est très possible que quelques-unes des usines à combustible ayant un outillage auxiliaire auquel elles puissent recourir dans les cas d'urgence ou pour les maxima de charges imprévus et que quelques usines hydrauliques ayant un outillage hydraulique supplémentaire pour de telles fins, aient mentionné ces outillages auxiliaires comme faisant partie de l'usine principale. Bien qu'un très petit nombre des usines hydroélectriques aient recours à leur usine à vapeur plus ou moins régulièrement pendant la période d'eau basse ou pendant les périodes de très forte demande, la plus grande partie de cet outillage et de sa production est réservée pour les cas de stricte urgence.

L'addition nette de 14,186 h.p. d'outillage primaire dans les usines auxiliaires, comprend 14,650 h.p. de l'usine à vapeur de la cité de Calgary. C'est en 1928 que cette usine fut louée à la Calgary Power Company et, en conséquence, elle a été portée, dans ces statistiques, des usines principales aux usines auxiliaires. L'augmentation de 454,318 h.p. dans les usines principales au cours de l'année, comprend les augmentations suivantes: 305,575 h.p. dans Québec, 63,252 dans la Colombie Britannique, 56,265 dans le Manitoba, 20,061 au Nouveau-Brunswick, 15,465 en Ontario, et autres augmentations de moindre importance dans les autres provinces, sauf dans l'Alberta où s'est produite une diminution de 13,427 h.p. Cette diminution nette est due presque entièrement au transfert de 14,650 chevaux-vapeur des usines principales municipales, en 1927, aux usines auxiliaires commerciales, comme il est expliqué plus haut. Ceci explique également, du moins en partie, la diminution totale de 16,977 h.p. inscrite pour les stations municipales. Comme il est fait mention au tableau 3, il y eut un grand nombre d'usines, tant municipales que commerciales, dans l'Alberta, la Saskatchewan et Québec, d'achetées par des organisations commerciales et ces transferts de stations municipales font plus que compenser les augmentations qui comprennent les nouvelles usines municipales ajoutées au cours de l'année. Les roues hydrauliques et les turbines ont accusé une augmentation de 470,519 h.p., et les moteurs à gazoline ou à l'huile dans les usines principales, une augmentation de 1,769 h.p.; cependant, dans les usines principales et auxiliaires, les engins à vapeur à double effet accusent une diminution de 4,092 h.p. et les turbines à vapeur, une diminution de 371 chevaux-vapeur.

TABLEAU 13.—CLASSIFICATION DE L'OUTILLAGE DES USINES CENTRALES

La classification des roues hydrauliques, des moteurs et des dynamos suivie dans ces statistiques est celle des manufacturiers, sauf dans le cas où les usines ont constaté par observation que la consommation diffère de la capacité de leurs moteurs, ils ont établi cette classification basée sur la moyenne de leurs opérations normales. Au cours de l'année, on a installé 12 grosses turbines

hydrauliques donnant une capacité totale de 25,000 h.p., et peut-être plus, et réparties comme suit : 8 dans Québec, 2 au Manitoba et 2 en Colombie Britannique. Ces turbines ont ajouté 398,000 h.p. à l'augmentation nette totale de 470,519 h.p. pour les roues de toutes grandeurs. Le nombre de roues de petites dimensions (au dessous de 500 h.p.) accuse une diminution de 220 dont une capacité de 40,272 h.p., à 187 avec une capacité de 33,126 h.p. Le nombre et la capacité totale des dynamos D.C. ont également diminué de 311 de 9,728 k.w. à 277 de 7,295 k.w. Bien que les moteurs à combustion interne aient diminué de 33 en nombre, leur capacité totale accuse une augmentation de 1,769 chevaux-vapeur. Les moteurs à vapeur à double effet, de 500 h.p., plus ou moins, accusent une diminution tant dans leur nombre que dans leur capacité totale. Depuis 1920, les turbines à vapeur dans les usines principales et usines auxiliaires, n'ont augmenté en capacité que de 68,927 h.p., soit 33.7 p.c., contre une augmentatoin de 2,691,401 h.p., soit 153.4 p.c., dans la capacité totale des roues hydrauliques et turbines.

TABLEAU 14.—ÉNERGIE ÉLECTRIQUE PRODUITE

Le courant électrique généré est la production des usines génératrices moins l'énergie utilisée dans l'opération de ces usines et, par conséquent, comprend toutes les pertes dans les transformateurs et les lignes de transmission se produisant entre l'usine génératrice et le consommateur définitif. Toutes les grandes usines mesurent par compteurs leur production, et celles qui n'ont pas de compteurs par k.h., estiment aussi approximativement que possible leur rendement en k.h. Les capacités indiquées en k.v.a. sont celles des dynamos à la fin de l'année, tant dans les usines principales que dans les usines auxiliaires des stations génératrices, mais les proportions de production relativement à la capacité moyenne indiquée sont calculées sur la quantité de k.h. générées, et la capacité des dynamos multipliée par le nombre d'heures pendant l'année au cours de laquelle le courant a été produit. Ainsi la plus grande capacité d'une dynamo de 1,000 k.v.a., pour l'année, serait de 8,760,000 k.h. mais si elle a été installée le 30 novembre son maximum de capacité serait réduit à seulement 744,000 k.h. Conséquemment, ces proportions sont directement comparables pour chaque année, sans tenir compte des dates auxquelles de fortes additions sont faites à la puissance génératrice de l'industrie et les hausses et les baisses de ces proportions ne peuvent qu'indiquer la position relative de la demande par rapport à l'offre sur une base de k.h. Comme il est dit plus haut, la proportion de la production comparée au maximum de capacité de 51.2 p.c. pour l'industrie en général, est la plus haute qui ait été enregistrée depuis le recensement. Pour établir cette proportion on tient compte de la totalité des usines; certaines petites usines opèrent sur une proportion qui baisse parfois jusqu'à 3 pour cent. Cependant, les grandes usines produisent certainement la plus grande partie du rendement total et quelques-unes de ces usines, surtout celles qui s'occupent en particulier de fournir l'énergie aux fabriques de pulpe et de papier, opèrent sur des proportions qui s'élèvent parfois jusqu'à 65 pour cent.

Les usines de Québec sont encore les premières au point de vue du nombre de kilowatt-heures générés, produisant 7,682,425,000 k.h., soit 47 p.c. du total pour le Canada; les usines de l'Ontario ont produit 6,064,031,000 k.h., soit 37 p.c. de la totalité. Cependant, c'est au Nouveau-Brunswick que l'on a enregistré la plus haute proportion d'augmentation au cours de l'année, c'est à dire, 39 pour cent. Le Manitoba vient ensuite avec 20 pour cent, Québec avec 17.7 p.c. et l'Ontario, le dernier, avec une proportion de 4.7 pour cent. Les grandes usines hydro-électriques qui font des rapports mensuels au Bureau, fixent le chiffre de production de leurs usines auxiliaires à combustible à 23,963,000 kilowatt-heures, ce qui place le rendement provenant des pouvoirs d'eau exploités à 16,081,742,000 kilowatt-heures, soit 98.4 pour cent du total. Bien que les usines à combustible n'aient produit que 1.4 p.c. de la production

totale, elles jouent cependant un rôle important dans les municipalités qui sont éloignées des lignes de transmission des usines hydro-électriques. Les petites usines, surtout celles qui fonctionnent au moyen d'appareils à gazoline ou à l'huile, rendent également de bons services en ouvrant de nouveaux établissements qui sont plus tard absorbés par les plus grandes usines.

TABLEAU 15.—COMBUSTIBLE

Ce tableau donne l'énumération du combustible employé par les usines à combustible et par les usines auxiliaires des stations hydrauliques. Cette année le compte du combustible s'est élevé à \$2,280,405, comparativement à \$2,302,817 en 1927. La grande diminution a été inscrite en Alberta où le total a baissé de \$102,035, et les seules augmentations furent de \$107,363 en Saskatchewan, où la production des usines à combustible a augmenté de 13,368,000 kilowatt-heures, ainsi qu'une augmentation de \$1,849 au Manitoba.

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CANADA

DOMINION BUREAU OF STATISTICS

TRANSPORTATION AND PUBLIC UTILITIES BRANCH

CENSUS OF INDUSTRY, 1929

Electric power stations

CENTRAL ELECTRIC STATIONS IN CANADA

(Prepared in collaboration with the Dominion Water Power and Hydrometric Bureau, Department of the Interior, with the assistance of The Ontario Hydro-Electric Power Commission, the Quebec Streams Commission, The New Brunswick Electric Power Commission, The Nova Scotia Power Commission and the Manitoba Power Commission)

Published by authority of the Hon. H. H. Stevens, M.P.
Minister of Trade and Commerce



OTTAWA
F. A. ACLAND
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1931

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PREFACE

The data pertaining to the central electric station industry in Canada are collected and the report is compiled by the Bureau under authority of the Statistics Act, 8-9, George V, Chap. 43.

The Bureau is indebted to the Dominion Water Power and Hydrometric Bureau of the Interior Department for checking both the schedules and the report, which was done under a co-operative arrangement made when the annual census was inaugurated. The Bureau also wishes to gratefully acknowledge the assistance received from the Electricity and Gas Inspection Service of the Department of Trade and Commerce and from the several provincial power commissions.

R. H. COATS,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, June 1, 1931.

DOMINION BUREAU OF STATISTICS
TRANSPORTATION AND PUBLIC UTILITIES BRANCH

R. H. COATS, B.A., F.S.S. (Hon.), F.R.S.C., Dominion Statistician
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CENTRAL ELECTRIC STATION INDUSTRY, 1929

The census of the central electric station industry in Canada is taken each year under authority of the Statistics Act, 1918 (8-9, George V, Chap. 43) by means of questionnaires or schedules sent by mail to all central electric stations. None of the data is collected by officials of the Bureau going into the field, but all schedules are examined and revised by the Bureau's staff and missing data or corrections are secured by correspondence.

For the purpose of the census, central electric stations are defined as companies, municipalities or individuals selling or distributing electric energy, whether generated by themselves or purchased for resale. The stations are divided into two classes according to ownership, viz., (a) commercial, those operated by companies or individuals, and (b) municipal, those operated by municipal, provincial or federal governments. The stations are also divided according to operation into (a) generating, those stations generating power which they sell; many of them also purchase power to supplement their own output, and (b) non-generating, those stations which purchase all the power they sell. In this second class there were 14 stations which were holding generating equipment classed as auxiliary plant equipment. Nine of them purchased all their electric energy and the remaining five generated only 753,000 kilowatt hours. This explains the rather anomalous item in table 14 showing the output of non-generating stations.

Included in these statistics are those of some stations engaged primarily in other industries, such as mining, manufacturing of pulp and paper, etc., which sell surplus power. For such plants, the statistics pertaining to the central electric station phase of the industry have been segregated as accurately as possible.

An explanation of what is included in each of the tables and what each item covers will be given later when discussing tables 3 to 15 inclusive.

Except for 1921, there has been an increase each year in the output of central electric stations, the rate varying from 7 per cent in 1920 to 20 per cent in 1922-1923, 1926 and 1927. For 1929 the total output was 17,962,515,000 kilowatt hours, or 10 per cent increase over the 1928 output, and more than double the output for 1923. The general business depression was undoubtedly responsible for the rate of increase being less than for the previous three years. The table below shows the output each year, 1919-1929, by commercial and municipal stations. The large increase in 1923 in output of municipal stations was due largely to the transfer of commercial plant to municipal ownership.

OUTPUT OF CENTRAL ELECTRIC STATIONS
(Thousands of Kilowatt Hours)

Year	Increase over previous year (Per cent)	Total	Commercial Stations	Municipal Stations
1929.....	10	17,962,515	12,774,107	5,188,408
1928.....	12	16,337,804	11,460,974	4,876,830
1927.....	20	14,549,099	9,944,422	4,604,677
1926.....	20	12,093,445	7,797,480	4,295,965
1925.....	9	10,110,459	6,527,103	3,583,356
1924.....	15	9,315,277	6,024,312	3,290,965
1923.....	20	8,099,192	5,074,120	3,025,072
1922.....	20	6,740,750	5,119,676	1,621,074
1921.....	-5	5,614,132	4,316,272	1,297,860
1920.....	7	5,894,867	4,456,428	1,438,439
1919.....		5,497,204	4,191,223	1,305,981

Electricity is exported from Canada only by licence granted by the Electricity and Gas Inspection Service of the Department of Trade and Commerce and the same branch of the department has jurisdiction over the export duty which has been imposed since April 1, 1925. During the fiscal year ended March 31, 1930, the export duty amounted to \$318,792, as against \$351,109 for the previous year. The rate is three one-hundredths of one cent per kilowatt hour on electric energy exported with certain exports excepted. Below is a table showing the quantities of power produced for export by each company and the total quantity generated by each for the calendar year 1929, the outputs shown being for the exporting stations only of these organizations, also the amounts exported, the differences between the exports and the quantities produced for export being the line losses. The data for this table were compiled from the annual reports of the Director of the Electricity and Gas Inspection Services.

KILOWATT HOURS GENERATED BY EXPORTING STATIONS, PRODUCED FOR EXPORT, AND EXPORTED TO THE UNITED STATES, 1929

Company	Total Output	Produced for Export	Exported
	Kilowatt Hours	Kilowatt Hours	Kilowatt Hours
Hydro Electric Power Commission of Ontario.....	3,594,589,400	394,697,800	390,199,400
Hydro Electric Power Commission of Ontario (Surplus).....	305,029,700	305,029,700	297,106,500
Cedar Rapids Manufacturing & Power Company, Ltd.....	952,495,867	453,183,618	431,481,990
Canadian Niagara Power Co., Ltd.....	632,261,900	300,539,120	289,264,910
Canadian Niagara Power Co., Ltd. (Surplus).....	89,000	89,000	89,000
Western Power Company of Canada, Ltd.....	256,999,800	375,684	359,850
Ontario and Minnesota Power Company, Ltd.....	20,408,900	15,413,600	15,413,600
Maine & New Brunswick Electrical Power Co.....	13,729,100	10,910,927	10,353,930
British Columbia Electric Railway Co.....	161,075,520	812,078	706,500
Northport Power & Light Co.....	265,552,449	377,972	377,972
Noritime Electric Co., Ltd.....	2,724,274	919,799	919,799
Southern Canada Power Co.....	13,979,200	418,682	385,214
Northern British Columbia Power Company.....	245,568	39,729	26,780
The International Railway Co.....	1,835,145	516,744	516,744
Fraser Companies, Ltd.....	7,866,500	7,321,500	7,321,500
Total.....	6,228,882,323	1,490,645,953	1,444,523,810

TABLE 1.—COMPARATIVE SUMMARY, 1921-1929

The more important data of the industry are presented in table 1 for the nine years, 1921-1929, to facilitate comparisons and to show the growth and fluctuations. There has been a continuous growth in capital, revenues, expenses, pole line mileage, customers, output and capacity, but the number of fuel plants showed decreases in 1924, 1928 and 1929, and in 1928 there was a net decrease of 2 hydraulic plants operating. The majority of the fuel plants that ceased to operate, however, were small plants and in most cases the service was supplied over transmission lines from larger plants. In Saskatchewan, especially, there are a number of small plants using internal combustion engines that have not the same permanent nature of large steam or hydraulic plants. There has been a more or less continued change of ownership of plants as between commercial and municipal stations which accounts for many of the large increases and decreases for these subdivisions. This is especially true for 1923 when capital for commercial stations showed a decrease of \$19,402,682. The increase in capital for the nine years was 117.8 per cent and, in revenue, 110.9 per cent, but the increase in output was 220 per cent. The output for 1921, however, was less than for 1920, due to business depression. Salaries and wages, have required only 20 to 26 per cent of the revenue and, due to the preponderance of hydraulic stations, the fuel bill was only 3 to 4.5 per cent of the revenues. The interest charges, however, were heavy, the capital being approximately 8.6 times the revenue throughout the period. Steam reci-

procating engines have decreased in number and capacity, being supplanted by steam turbines, internal combustion engines and water wheels and turbines. During the nine years, water wheels and turbines increased 26 per cent in number but 158 per cent in capacity, the average capacity increasing from 3,024 h.p. in 1921 to 6,193 h.p. in 1929. D.C. dynamos showed small increases in 1925-1926 and 1927, but decreases in the other years, being 41 per cent less in capacity in 1929 than in 1921 although the number increased by 42.4 per cent. This table also shows exports and imports of electricity to and from the United States. The imports were small and in the majority of cases were by small municipalities on the border where the power plant was in the United States. The exports, however, were in large blocks, principally from Niagara Falls plants and the Cedars Rapids plant on the St. Lawrence river.

Of the total production for 1929, 8.2 per cent, or 1,490,645.953 kilowatt hours, was for export, the actual quantity delivered at the border being 1,444,523.810 kilowatt hours. From Niagara Falls plants 976,659,909 kilowatt hours were exported and, of this, 297,195,592 kilowatt hours were surplus power which was exported as it was available during off-peak periods. As water cannot be stored at Niagara Falls, this surplus power would have been wasted if it had not been exported.

The industry owes considerable to the pulp and paper industry for its rapid growth during the past decade. For 1929 the motors in pulp and paper mills which were driven by electricity supplied by central electric stations had a rated capacity of 944,272 horse-power and this was 36 per cent of the total of all motors driven by central station power. Also, due to the fairly constant load and continuous operation, the amount of electricity used by these pulp and paper motors was undoubtedly much greater per horse-power than the average for all industries and, in addition to large blocks of power for driving machines, the industry has also been using increasing quantities of hydro-electric energy in electric boilers.

TABLE 2.—SUMMARY OF PRINCIPAL DATA, 1928-1929

The capital investment of \$1,055,731,532 as at December 31, was by far the largest investment in any single manufacturing industry in Canada, the second industry being the pulp and paper with \$644,773,806, and the third, saw mills, with \$181,586,699. The increase during the year of \$98,811,929 did not include expenditures of plants under construction, but only expenditures by stations operating on December 31, although some of such expenditures were for works necessary for future extensions. The principal projects under way, but not completed in 1929, included a 4,500 horse-power plant on the Black river in Nova Scotia, by the Avon River Power Company, a storage reservoir of 3.2 billion cubic feet by the Saint John River Storage Company in Quebec to improve power conditions on the Saint John river in New Brunswick, another storage reservoir on the Mattawin river by the Shawinigan Water and Power Company, with a capacity of 33 billion cubic feet, and a power plant of 90,000 horse-power (initial), and a storage reservoir of 25 billion cubic feet by the James MacLaren Company, also in Quebec. The Beauharnois Light, Heat and Power Company started construction of a canal between Lake St. Francis and Lake St. Louis, expansions of the St. Lawrence river. The canal is so designed that it may be used for navigation by ocean vessels and will deliver water to a power house with an initial capacity of 500,000 horse power. The length is approximately 15 miles and the whole project is one of the largest of its kind in Canada. In Ontario, the Hydro Electric Power Commission had under way a 54,000 horse-power development on the Nipigon river at Alexander Landing and was installing the tenth unit of 58,000 horse-power in the Queenston plant and the Canada Northern Power Company started construction of a 13,000 horse-power plant on the Montreal river. In Manitoba

two large hydro-electric plants of 225,000 horse-power and 96,000 horse power on the Winnipeg river were under construction. The Churchill River Power Company was working on an 84,000 horse-power plant in Northern Saskatchewan and in British Columbia the largest program in the history of the province was under way. This included a 188,000 horse-power hydro electric plant on the Lower Slave river at Ruskin by the Western Power Company of Canada, a 56,000 horse-power plant on the Bridge river and a 32,000 horse power plant on the Falls river. There were also under way and projected extensive transmission lines. From the above, it is quite evident that the industry will continue for the next two or three years to show considerable increase in investment and construction and, with revival of business, a very marked increase in output.

Nearly 65 per cent of the capital was in commercial stations, but these stations earned only 57.68 per cent of the total revenue. This was largely due to the difference in markets of the commercial and municipal stations. The former have a larger wholesale market, such as pulp and paper mills, mines, etc. and the latter have a higher percentage of domestic service customers. The increase in capital of commercial stations amounted to \$70,860,871, or 11.5 per cent, and of municipal stations to \$27,951,058, or 8 per cent. The output of commercial stations increased by 1,313,133,000 kilowatt hours, or 11.5 per cent, and of municipal stations by 311,578,000 kilowatt hours, or 6.4 per cent.

TABLE 3.—POWER PLANTS

The definition of a central electric station as adopted for census purposes was given at the beginning of this report, and, according to this definition, the number of commercial and municipal organizations selling electric energy would be the number of stations. Some organizations operate several systems which are in different municipalities and which are not connected by transmission lines, and, in other cases, many municipalities are served from one power plant. The organizations reporting are counted as they report. If a commercial organization makes a separate report for each of its subsidiary companies, each such subsidiary company is counted, and if it includes them all in one report, they are counted as only one organization. The nature of control is so varied that it is not practicable to do otherwise. The power plants shown in this table are individual plants, counted irrespective of ownership or location. In some cases, two or more of these are operated by one company, some of them being close together, and others, miles apart.

There was a net reduction of power plants of 16, equally divided between commercial and municipal stations. The plants that ceased operation were all small, the majority being fuel plants in Saskatchewan and Alberta. In Quebec there was a net decrease of 5 commercial plants and an increase of 1 municipal plant, and in Ontario commercial plants decreased by 7 and municipal plants increased by 9, due largely to the acquisition by the Ontario Hydro Electric Power Commission of commercial plants and opening of new plants. In Saskatchewan and Alberta the movement was in the other direction; commercial organizations acquired several municipal plants; the number of municipal plants decreased by 6 in Saskatchewan and by 5 in Alberta. Commercial plants in Saskatchewan also decreased by 3, but increased by 2 in Alberta. The number of commercial organizations reporting was reduced by 19 and municipalities reporting decreased by 20. The reduction of municipalities reporting included 8 in Saskatchewan, 4 in Alberta and 8 in British Columbia which secured their service from commercial stations. Increases of 2 in Ontario and 1 in Nova Scotia were offset by decreases of 2 in Quebec and 1 in New Brunswick. The decrease in commercial organizations was due more to consolidation than to cessation of operation.

TABLE 4.—CAPITAL

The capital employed in the industry is reported under four heads, viz., generation, transmission, distribution, and general. Generation includes investments in power houses and sites, dams, penstocks, flumes, storage and regulating structures, surge tanks, storage basins, etc., and equipment in power houses, except step-up transformers or other transmission equipment. Transmission includes investments in receiving stations and sites, rights of way of transmission lines and step-up transformers. Distribution includes investments in substations and sites and rights of way of distribution lines, switchboards and step-down transformers in receiving stations and substations, distribution lines, line transformers, meters, etc. General includes investments in office buildings, sites and fixtures, materials and supplies on hand, cash, trading and operating accounts and bills receivable. The total represents the capital employed in the industry. The capital is the total, as at December 31, of stations operating, and does not include any investments by new organizations not yet operating but does include expenditures by organizations operating plants, which have been made for future installations of equipment. Consequently the averages per horse power and per K.V.A. are increased by the inclusion of such capital. The averages of investment per mile of distribution and transmission line are more indicative of the different types of lines in each province than of comparative costs of the same types.

Ontario still ranked first with \$422,486,669 and Quebec was second with \$421,000,578; (80 per cent of the total capital was invested in these two provinces). Ontario held first place due to its large investment in distribution and transmission systems, the investments in generating plant only in Quebec being the highest at \$298,564,636 as against \$221,449,751 in Ontario. The increase during the year in total capital in Quebec stations was \$49,250,383, or 13.2 per cent, and in Ontario stations, \$26,141,796, or 6.6 per cent, and in all stations in Canada, \$98,811,929, or 10.2 per cent. The average investment in all stations per K.V.A. capacity was \$252, ranging from an average of \$320 in Ontario to \$181 in Manitoba. Manitoba stations showed the lowest average investment for generating plant with \$69 per horse-power. In Ontario and Quebec the averages were \$135 and \$133, respectively, and there was not much difference in the averages per mile for transmission and distribution line, but the much greater mileage in Ontario increased the average total investment per unit of generator capacity.

TABLE 5.—REVENUES

The 1929 schedules required a different division of revenues and customers from previous years, the division being as follows:—

- (1) Farm service.
- (2) Domestic service.
- (3) Commercial light and power of 50 K.W. and under.
- (4) Commercial light and power over 50 K.W.
- (5) Sales to distributing companies.
- (6) Street lighting.

In this report, (1) and (2) are combined under domestic service, (3) is shown as commercial light, and (4) as power. Revenue from sales to distributing companies was excluded because the addition of all revenues including this item would cause a duplication. It will be seen from the above that commercial light and power revenues and customers for 1929 are not directly comparable with these data for previous years. The number of customers is affected much more than the revenues, due to this transfer of small power customers from power to commercial light. The practice of excluding duplications of revenue was the same as for previous years, so that the total revenues and revenues for domestic service, however, are comparable. Revenue from street

lighting in previous years was included with lighting revenue. As was to be expected, when schedules are changed, all stations were not able to make exact segregations of the data, and some estimates were necessary, but the data are fairly accurate for the subdivisions of both revenues and customers.

In computing the average revenue per kilowatt hour for all purposes, the power generated in Quebec and transmitted to Ontario for consumption has been included in the computations for both provinces. Quebec stations showed the lowest average of .47 cent. The large quantities of power sold to pulp and paper mills and to other such customers were responsible to a large extent for this low average; the average revenue per power customer was \$8.350 as against \$1,828 in Ontario, \$1,019 in Manitoba and \$1,067 in British Columbia. The average revenues per kilowatt hour in the other provinces were: Manitoba, .58 cent; Ontario, .76 cent; British Columbia, .88 cent; New Brunswick, 1.76 cents; Alberta, 2.14 cents; Nova Scotia, 2.87 cents; Saskatchewan, 3.49 cents and Prince Edward Island, 7.45 cents. The effect of bulk sales is shown in New Brunswick where the largest plant in the province sells its entire output to two paper companies. The average revenue per kilowatt hour in 1928 for New Brunswick, before this plant was completed, was 2.57 cents and in 1929 it was reduced to 1.76 cents although the general rates for light and power throughout New Brunswick were practically the same in both years. A similar drop, although less marked, was recorded in Manitoba when a large paper mill started operation. The above shows clearly how necessary it is to consider the nature of markets when comparing revenues of individual stations or groups of stations.

The average revenue per domestic service customer was from \$2 to \$3 per month and the averages for commercial light customers also were fairly uniform, but the averages for power customers, as would be expected, showed large differences, ranging from \$8.350 in Quebec to \$476 in Alberta. The segregation of the small power customers was responsible for the large increases as compared with previous years.

TABLE 6.—EXPENSES

These data include only the four items, (1) salaries and wages, (2) fuel, (3) taxes, and (4) cost of power. The last is an inter-industry expense and could very well be omitted from the expenses of the industry as a whole. It shows, however, the extent of purchases of power by the different groups of stations. Salaries and wages increased by only \$744,401, or 3.1 per cent, but the fuel bill increased by \$735,490, or 32 per cent. Commercial stations paid \$4,464,299 in taxes, or 90 per cent of the total. Nearly two-thirds of the taxes paid by municipal stations was by Ontario stations, the provincial commission paying the major portion. In Manitoba, Saskatchewan and Alberta, the greater part of the municipal taxes was paid by four large city systems, but, in the majority of municipalities, no taxes are paid by the municipal lighting system.

TABLE 7.—EMPLOYEES

The number of employees increased by 309, or 1.9 per cent, 73 in commercial stations and 236 in municipal stations. Ontario stations had 42.6 per cent of the total employees, Quebec, 24.6 per cent, British Columbia and the Yukon, 10.0 per cent, Manitoba, 8.3 per cent, Alberta, 4.6 per cent, Saskatchewan and Nova Scotia, 3.8 per cent each, New Brunswick 2.0 per cent, and Prince Edward Island, .24 per cent. These ratios follow very closely the percentages of customers in each province. Ontario showed the highest with 41.6 per cent of the total number of customers, Quebec was second with 28.4 per cent, British Columbia and the Yukon showed 9.8 per cent, Alberta, 4.7 per cent, Saskatchewan, 3.8 per cent, Nova Scotia, 3.1 per cent, New Brunswick, 2.4 per cent and Prince Edward Island, .29 per cent. Evidently the number of employees is more closely related to customers than output or size of power plants.

TABLE 8.—CUSTOMERS

A description of the changes in the 1929 schedule is given above under table 5, "Revenues," and, due to these changes, the total number of customers and domestic service customers only are comparable with corresponding data for previous years. The commercial light customers were increased by the inclusion of small power customers and the number of power customers was decreased. The average number of domestic service customers per 100 population is based on the official estimates by the Bureau of provincial populations for 1929. British Columbia continued to show the greatest density of 21.90; the inclusion of the Yukon had very little effect on the data. Ontario was second with 16.58, Quebec was third with 13.86 and Manitoba, fourth, with 11.18. All the provinces showed increases and the density for Canada increased from 12.50 in 1928 to 13.19, or by 5.5 per cent. Street lighting customers included all municipalities having street lighting systems, whether owned by the municipalities or by commercial stations.

TABLE 9.—POLE LINE MILEAGE

The pole line mileage is divided into two divisions, (a) transmission, which includes lines from power houses to receiving stations, and (b), distribution, which includes lines from receiving stations to substations and to customers and, if the power is not stepped up in any power house for transmission, all the pole line mileage of that system is included with the distribution mileage. These mileages are counted irrespective of the number of circuits carried on the poles and towers.

There was considerable activity in Alberta and Saskatchewan in extending transmission lines linking up municipalities which formerly were served by local power plants. The transmission pole line mileage in Saskatchewan increased from 382 miles in 1928 to 1,006 miles, and, in Alberta, from 1,578 miles in 1928 to 1,929 miles. There were also substantial increases in the other provinces, the total showing an increase of 2,697 miles, or 19 per cent. There were also increases in each province in distribution mileage, the largest being in Ontario where 1,160 miles were added. In Quebec the increase amounted to 893 miles and in British Columbia, to 279 miles. Of the total distribution mileage, over 46 per cent was in Ontario, 20 per cent was in Quebec and 11 per cent in British Columbia.

TABLES 10-11-12.—EQUIPMENT

The equipment of the power houses has been divided into two classes, main plant and auxiliary, or standby, equipment. The auxiliary plant equipment includes all steam engines and turbines and internal combustion engines and dynamos driven by them in hydro-electric stations and all the equipment in non-generating stations. All other equipment is classed as main plant equipment and includes water wheels and turbines and generators driven by them in hydro-electric stations and all equipment in plants using fuel only. It is quite possible that some of the fuel stations have equipment held as standby equipment for use only in emergencies or for occasional peaks and also that some hydraulic stations have hydraulic equipment similarly held, but it is all classified as main plant equipment. Although a few of the hydro-electric stations use their steam equipment more or less regularly during periods of low water and during periods of heavy demand, the greater part of it is held strictly in reserve for emergencies.

The increase in auxiliary plant equipment of 12,655 horse-power was due largely to a new steam turbine of 6,667 horse-power installed by the East Kootenay Power Company at Fernie, British Columbia, to supplement their hydraulic plant during low water periods, and to the Calgary Power Company acquiring several small fuel plants which were classed as auxiliary.

Primary power in main plant increased by 297,888 horse-power, the largest increases being 159,428 horse-power in Quebec, 50,323 horse-power in New Brunswick, 40,235 horse-power in Ontario and 20,180 horse-power in Alberta. Quebec stations had 45.0 per cent of the total equipment as measured in horse-power and Ontario, 32.6 per cent. The capacity of all water wheels and turbines was almost 96 per cent of the total for main plant and over two-thirds of the generator capacity of fuel stations was in Saskatchewan and Alberta stations Saskatchewan having no hydraulic stations.

TABLE 13.—MAIN PLANT EQUIPMENT CLASSIFIED

Whereas in 1921 there were only 28 water wheels and turbines with capacities of 15,000 horse-power and over, with an average capacity of 17,410 horse-power, in 1929 there were 91 such machines and their average capacity was 29,202 horse-power, their total capacity being over half of all the primary power equipment. Reciprocating steam engines have been gradually reduced in both number and total capacity whereas steam turbines have increased in number, total capacity and size, the turbines with capacities of 5,000 horse-power and over increasing from 4 in 1921 to 9 in 1929. Internal combustion engines have also increased in number, but not in average capacity, the averages being 75.6 horse-power in 1921 and 68.3 horse-power in 1929. D.C. dynamos have also increased in numbers in the small sizes, but units of over 200 K.W. capacities decreased from 20 in 1921 to 7 in 1929. The majority of the small D.C. dynamos are connected with internal combustion engines and 91 per cent of them had capacities of under 50 K.W. and an average of 12 K.W.

TABLE 14.—ELECTRIC ENERGY GENERATED

The electric energy generated is the output at the power plants less power used for the operation of the plants, and consequently includes all transformer and line losses entailed in delivering power to the consumers. All the large stations meter their output and for those stations which have no watt hour meters, the kilowatt hours are estimated as best possible. The K.V.A. capacities shown were the rated dynamo capacities at the close of the year of both main and auxiliary plant of generating stations, but the ratios of output to maximum capacity were computed from the kilowatt hours generated and the rated capacities of dynamos multiplied by the number of hours during the year they were available. Thus, the maximum capacity of a 1,000 K.V.A. dynamo for a year would be 8,760,000 kilowatt hours, but, if installed on November 30, its maximum capacity would be only 744,000 kilowatt hours. Consequently these ratios are directly comparable for each year irrespective of when large additions are made to the generating capacity of the industry and the rising and falling of the ratios indicate the relative position of the supply to the demand on a kilowatt hour basis. There was a reduction in the ratio of output to capacity from 51.2 per cent in 1928 to 50.0 per cent in 1929 although the generator capacity at the end of the year did not show as much increase as during the previous year. The ratio of 50 per cent means that if the generators in main and auxiliary plant had operated continuously throughout the year at rated capacity, the output would have been about double the actual output (the amount required for station use must be deducted). This is a high ratio for the industry as a whole; the corresponding ratio for United States stations in 1927, using the capacity at the end of the year, was only 33 per cent. Of course, variations in the respective markets account for much of this difference. One large Canadian station selling a large part of its output to pulp and paper mills showed a ratio of 72 per cent and a few other large stations showed ratios of over 60 per cent, which considerably increased the ratio for all stations.

From an analysis of stations that segregated accurately the customers, revenues and consumptions of domestic service customers, Manitoba, with the lowest rate per kilowatt hour of around one cent, had the highest average consumption of over 3,000 kilowatt hours and, except for Saskatchewan, also had the highest average bill of \$35.94 per annum. This high average consumption was largely due to conditions in Winnipeg where a relatively large number of customers use electricity for cooking and water heaters. This preference for electricity is evidently due to the low price, for although coal was more expensive than in Montreal and Toronto, the only larger cities in Canada, the price of gas was only \$1.01 per M cu. ft. as against \$1.05 in Montreal and 85 cents in Toronto. The average consumption per domestic service customer in Ontario was approximately 1,500 kilowatt hours per annum. in British Columbia, 930 kilowatt hours, and in Quebec, 630 kilowatt hours.

For the large power customers, Quebec showed the largest average consumption of approximately 2,400,000 kilowatt hours per annum and also the lowest average revenue of approximately .32 cent. Ontario statistics were not completely segregated for consumptions, but for the stations which did make the segregation, the average was 819,000 kilowatt hours per annum at an average rate of .46 cent per kilowatt hour. In Manitoba, the consumption was lower at 292,000 kilowatt hours, but the rate was also lower at .35 cent. British Columbia was fourth with an average consumption of 171,000 kilowatt hours at .61 cent per kilowatt hour. In the other provinces the average rates ranged up to 1.71 cents. These figures are only approximate and should be treated as such. This was the first year these segregations were required and they contained some estimates. With better records established, more reliable statistics will be available, but the above clearly shows the differences between consumptions and rates for domestic and large power customers. It is quite obvious that the factors entering into these rates cannot be tabulated although they should not be ignored when making comparisons.

TABLE 15.—FUEL

The total cost of fuel consumed by auxiliary plants of non-generating stations and of hydraulic stations and by fuel stations amounted to \$3,015,895, as against \$2,280,405 in 1928, the large increases being \$416,746 in British Columbia and the Yukon, \$196,820 in Saskatchewan and \$70,738 in Alberta. Converting all fuel to equivalent tons of bituminous coal with a calorific value of 13,000 B.T.U. per pound gives an average consumption of approximately 2.95 pounds of coal per kilowatt hour of output. Approximately 25 per cent of the total bill was for fuel oil and the major portion of this was used in the western provinces where the average cost was 5.87 cents per gallon.

Table 1—Comparative Summary, 1929-1921

Principal Data by Class of Station Données principales par classes d'usines		1929	1928	1927	1926	1925
Electric Power Plants—						
Total		585	601	629	595	563
Hydraulic		300	300	302	294	234
Fuel		285	301	327	301	279
Commercial		420	428	432	393	365
Municipal		165	173	197	202	198
Capital—						
Total		1,055,731,532	956,919,603	866,825,285	756,220,066	726,721,087
Commercial		685,771,270	614,910,399	528,070,964	430,817,426	409,862,801
Municipal		369,960,262	342,009,204	338,754,321	325,402,640	316,858,286
Generating		926,103,973	835,422,031	750,703,270	647,850,154	625,970,833
Non-generating		129,627,559	121,497,572	116,122,015	108,369,912	100,750,204
Revenue—						
Total		122,883,446	112,326,819	104,033,297	88,933,733	79,341,584
Commercial		70,874,794	64,575,700	59,320,175	47,911,555	42,195,543
Municipal		52,008,652	47,751,119	44,713,122	41,022,178	37,146,041
Generating		102,704,833	92,722,293	86,369,058	72,123,290	63,547,553
Non-generating		20,178,613	19,604,526	17,664,239	16,810,443	15,794,031
Expenses—						
Total		67,432,418	62,330,860	60,169,781	52,766,799	47,635,531
Commercial		31,888,591	30,961,337	28,704,496	24,622,619	21,325,649
Municipal		35,543,827	31,369,523	31,465,285	28,144,180	26,309,882
Generating		36,713,723	33,837,618	31,920,941	27,655,269	24,857,279
Non-generating		30,718,695	28,493,242	28,248,840	25,111,530	22,778,252
Pole Line Mileage—						
Total		42,913	37,333	33,573	29,695	27,653
Commercial		22,356	18,875	16,747	14,257	13,047
Municipal		20,557	18,458	16,826	15,438	14,606
Generating		30,718	25,524	23,246	20,005	18,372
Non-generating		12,195	11,899	10,327	9,690	9,281
Customers—						
Total		1,555,883	1,461,005	1,381,968	1,337,562	1,279,731
Domestic Service		³ 1,292,481	1,207,457	1,142,512	1,110,637	1,063,530
Commercial light		⁴ 233,854	215,728	199,431	188,553	180,994
Power		⁴ 28,001	40,820	40,025	38,372	35,207
Street lighting		1,547	—	—	—	—
Commercial stations		733,698	677,223	622,823	584,760	559,172
Municipal stations		822,185	786,782	759,145	752,802	720,559
Generating		796,298	728,872	699,874	680,717	653,032
Non-generating		759,585	735,133	682,094	656,845	626,699
Electric Energy Generated—						
Total Kilowatt Hours (Thousands)		17,962,515	16,337,804	14,549,099	12,093,445	10,110,459
Commercial		12,774,107	11,460,974	9,944,422	7,797,480	6,527,103
Municipal		5,188,408	4,876,830	4,604,677	4,295,965	3,583,356
Exports of Electricity to the United States (Thousands) K.W.H.						
Imports of Electricity from the United States (Thousands) K.W.H.		1,444,524	1,587,761	1,632,614	1,506,002	1,285,510
Equipment in generating stations (Main Plant only)—		6,133	5,223	5,020	5,354	—
Total primary power	H.P.	4,925,555	4,627,667	4,173,349	3,769,323	3,569,527
Water wheels and turbines	No.	762	749	759	730	710
Steam reciprocating engines	H.P.	4,718,927	4,445,531	3,975,012	3,609,385	3,416,018
	No.	99	115	134	151	147
Steam turbines	H.P.	26,103	29,206	33,788	36,386	34,230
	No.	62	56	61	47	43
Internal combustion engines	H.P.	156,873	131,295	144,683	103,847	101,457
	No.	346	366	399	341	306
	H.P.	23,652	21,635	19,866	19,705	17,822
Total in commercial stations	H.P.	3,528,625	3,268,350	2,797,055	2,423,244	2,243,315
Total in municipal stations	H.P.	1,401,930	1,359,317	1,376,294	1,346,079	1,326,209
Total secondary power	K.V.A.	4,048,019	3,764,331	3,385,227	2,995,387	2,844,709
Dynamos, A.C.	No.	1,006	994	1,008	977	935
Dynamos, D.C.	K.V.A.	4,041,178	3,757,036	3,375,499	2,985,935	2,835,742
	No.	245	277	311	249	231
	K.W.	6,841	7,295	9,728	9,452	8,967
Total in commercial stations	K.V.A.	2,940,210	2,690,097	2,297,005	1,938,048	1,803,545
Total in municipal stations	K.V.A.	1,107,809	1,074,234	1,088,222	1,057,339	1,041,164
Auxiliary Plant Equipment—						
Primary power	H.P.	171,888	159,233	145,047	176,865	173,170
Secondary power	K.V.A.	146,251	135,440	121,863	145,828	142,421

¹ Duplications excluded.² Includes wages, cost of power, and fuel for 1929-1921 and for 1929-1925 taxes, but not other expenses.³ Farm service is included with domestic service.⁴ Commercial light and power customers with loads of 50 K.W. and under are classified as commercial light, and with loads of over 50 K.W., as power for 1929.

Tableau 1—Résumé comparatif, 1919-21

1924	1923	1922	1921	Per cent increase 1920 over 1921 — Pourcentage d'augmenta- tion de 1920 sur 1921	
					Usines Électriques—
532	532	522	510	14.7	Total.
273	269	269	259	15.8	Hydrauliques.
259	263	253	251	13.5	A combustible.
333	335	326	317	32.5	Commerciales.
199	197	196	193	-14.5	Municipales.
628,565,093	581,780,611	568,068,752	484,669,451	117.8	Capitiaux—
326,554,580	307,046,240	326,448,922	327,439,827	109.4	Total.
302,010,513	274,734,371	241,619,830	157,229,624	135.3	Commerciales.
532,016,164	489,085,939	484,635,750	410,382,619	125.7	Municipales.
96,548,929	92,694,672	83,433,002	74,286,832	74.5	Productrices.
					Non-productrices.
74,616,863	67,496,893	62,173,179	58,271,622	110.9	Recettes—
39,033,665	37,040,835	37,894,341	37,000,661	91.6	Total.
35,583,198	30,456,058	24,278,838	21,270,961	144.5	Commerciales.
59,861,915	52,681,003	48,102,723	46,404,540	121.3	Municipales.
14,754,948	14,815,890	14,070,456	11,867,082	70.0	Productrices.
					Non-productrices.
40,887,779	41,067,329	37,327,493	33,364,566		Dépenses—
16,777,557	15,319,394	14,704,651	14,175,563		Total.
24,110,222	25,747,935	22,622,842	19,189,003		Commerciales.
20,198,257	20,992,105	19,304,835	18,078,155		Municipales.
20,689,522	20,075,224	18,022,658	15,286,411		Productrices.
					Non-productrices.
26,654	23,560	22,669	21,714	97.6	Lignes sur poteaux—
12,102	11,146	11,123	10,987	103.5	Total.
14,552	12,414	11,546	10,727	91.6	Commerciales.
17,340	14,405	13,927	13,460	128.2	Municipales.
9,314	9,155	8,742	8,254	47.7	Productrices.
					Non-productrices.
1,200,950	1,112,547	1,053,545	973,212	60.0	Abonnés—
989,510	920,223	889,346	830,062		Total.
176,444	159,929	164,199	143,150		Service domestique.
34,996	32,395	—	—		Éclairage commercial.
	—	—	—		Force motrice.
521,064	496,591	476,285	466,235	57.4	Éclairage des rues.
679,886	615,956	577,260	506,977	62.2	Commerciales.
610,206	547,928	533,923	531,643	49.8	Municipales.
590,744	564,619	519,622	441,569	72.0	Productrices.
					Non-productrices.
9,315,277	8,099,192	6,740,750	5,614,132	220.0	Énergie Électrique produite—
6,024,312	5,074,120	5,119,676	4,316,272	196.0	K.W. Heures produites (milles)—
3,290,965	3,025,072	1,621,074	1,297,860	299.8	Commerciales.
					Municipales.
1,302,317	1,343,501	976,522	885,259	63.1	Exportations d'électricité aux États-Unis..... K.W.H.
					Importations d'électricité des États-Unis..... K.W.H.
					Machineries dans les usines productrices (Machines des usines principales)—
2,819,450	2,423,845	2,258,398	1,977,857	149.0	Total, force motrice primaire..... H.P.
667	641	629	604	26.2	Turbines et roues hydrauliques..... Nomb.
2,707,957	2,282,547	2,112,289	1,826,357	158.4	H.P.
147	159	175	187	-47.1	Machines à vapeur..... Nomb.
33,876	37,116	40,484	45,450	-42.6	H.P.
40	38	41	43	44.2	Turbines à vapeur..... Nomb.
90,617	87,767	89,545	90,705	72.9	H.P.
271	262	225	203	70.4	Moteurs à gaz et à pétrole..... Nomb.
17,000	16,415	16,080	15,345	54.1	H.P.
1,701,793	1,451,498	1,565,229	1,443,333	144.1	Total dans les usines commerciales... H.P.
1,147,657	972,347	693,169	534,324	162.4	Total dans les usines municipales... H.P.
2,282,046	1,861,845	1,736,199	1,476,610	174.3	Total, force motrice secondaire..... K.V.A.
881	860	857	841	19.6	Dynamos, C.A..... Nomb.
2,273,461	1,852,396	1,725,831	1,464,022	176.0	K.V.A.
206	208	181	172	42.4	Dynamos, C.D..... Nomb.
8,585	9,449	10,368	11,588	-41.0	K.W.
1,401,471	1,140,943	1,210,947	1,086,128	170.7	Total dans les usines commerciales... K.A.V.
880,575	720,900	525,252	389,482	154.4	Total dans les usines municipales... K.V.A.
					Machines des usines auxiliaires—
168,102	149,572	150,257	133,562	28.7	Force motrice primaire..... H.P.
136,755	121,832	122,214	107,490	36.1	Force motrice secondaire..... K.A.V.

¹ Les doubles emplois exclus.

² Comprend gages, coût de la force motrice et du combustible en 1929 et 1921 et les taxes pour 1929-1925, mais pas d'autres dépenses.

³ Les clients commerciaux pour éclairage et énergie avec charge de 50 K.W. et moins sont classifiés dans l'éclairage commercial, et avec débit de plus de 50 K.W., en énergie pour 1929.

Table 2—Summary of Principal Data, 1929-1928

	Total		Commercial — Commerciales		Municipal — Municipales	
	1929	1928	1929	1928	1929	1928
	1	2	3	4	5	6
Total Number of Electric Power Plants...	585	601	420	428	165	173
No. of hydraulic plants.....	300	300	212	218	88	82
No. of fuel plants.....	285	301	208	210	77	91
Total Capital	1,055,731,532	956,919,603	687,771,270	614,910,399	369,960,262	312,009,204
Lands, buildings, equipment, etc.....	1,001,562,462	901,570,518	653,404,280	578,383,026	348,158,182	323,180,892
Materials on hand, cash trading accounts, etc.....	54,169,070	55,349,085	32,366,990	36,526,773	21,802,080	18,822,312
Total Net Revenue from Sale of Electric Energy	122,883,446	112,326,819	70,874,794	64,575,700	52,008,652	47,751,119
Expenses	67,132,418	62,330,860	31,888,591	30,961,337	35,543,827	31,369,523
Salaries and wages.....	24,831,821	24,087,420	12,245,048	11,860,740	12,586,773	12,226,680
Fuel.....	3,015,895	2,280,405	1,624,549	1,038,669	1,391,346	1,241,736
Cost of power.....	34,615,939	31,365,636	13,554,695	13,881,485	21,061,244	17,484,151
Taxes.....	4,968,763	4,597,399	4,464,299	4,180,443	504,464	416,956
Total Number of Employees	16,164	15,855	8,261	8,188	7,903	7,667
Total Mileage of Pole Lines	42,913	37,333	22,356	18,875	20,557	18,458
For transmission.....	17,069	14,372	11,054	9,058	6,015	5,314
For distribution.....	25,844	22,961	11,302	9,817	14,542	13,144
Total Number of Customers	1,555,883	1,464,005	733,698	677,223	822,185	786,782
Domestic service ⁽¹⁾	1,292,481	1,207,457	601,628	547,949	690,853	659,508
Commercial light ⁽²⁾	233,854	215,728	118,416	109,219	115,438	106,509
Power ⁽³⁾	28,001	40,820	12,608	20,055	15,393	20,765
Street lighting.....	1,547	—	1,046	—	501	—
Total K.W. Hours Generated (Thousands)	17,962,515	16,337,804	12,774,107	11,460,974	5,188,408	4,876,830
Total Power (excluding Auxiliary Plant Equipment)						
	Total		Commercial — Commerciales		Municipal — Municipales	
	1929	1928	1929	1928	1929	1928
	1929	1928	1929	1928	1929	1928
Total Primary Power H.P. ...	4,925,555	4,627,667	3,523,625	3,268,350	1,410,930	1,359,317
Water wheels and turbines..... No.....	762	749	541	545	221	204
Steam reciprocating engines..... No.....	4,718,927	4,445,531	3,444,533	3,207,672	1,274,394	1,237,859
..... H.P.....	99	115	59	62	40	53
Steam turbines..... No.....	26,103	29,206	14,779	15,682	11,324	13,524
..... H.P.....	62	56	28	24	34	32
Gas and oil engines..... No.....	156,873	131,295	48,823	31,626	108,050	99,669
..... H.P.....	346	366	264	278	82	88
..... K.W.....	23,652	21,635	15,490	13,370	8,162	8,265
Total Secondary Power K.V.A. ...	4,048,019	3,764,331	2,940,210	2,690,097	1,107,809	1,071,234
Dynamos, A.C..... No.....	1,006	994	657	653	349	341
..... K.V.A.....	4,041,178	3,757,036	2,935,002	2,684,637	1,106,176	1,072,399
Dynamos, D.C..... No.....	245	277	221	242	24	35
..... K.W.....	6,841	7,295	5,208	5,460	1,633	1,835

(1) Farm service is included with domestic service.

(2) Commercial light and power customers with loads of 50 K.W. and under are classified as commercial light, and with loads of over 50 K.W., as power for 1929.

Tableau 2—Résumé comparatif des données principales, 1929-1928

Generating Productrices		Non-generating Non-productrices		Per cent of Column 1 Pour cent de la 1ère col.				
1929	1928	1929	1928	Com- mer- ciales	Muni- ci- pales	Gene- rating Pro- duc- trices	Non- pro- duct.	
				1929	1929	1929	1929	
7	8	9	10	11	12	13	14	
585 300 285	601 300 301	— — —	— — —	71.79 70.67 72.98	28.21 29.33 37.02	100.00 100.00 100.00	— — —	Nombre d'usines génératrices. Nombre d'usines hydrauliques. Nombre d'usines à combustibles.
926,103,973 886,733,155	835,422,031 793,693,526	129,627,559 114,829,307	121,197,572 107,876,992	64.96 65.24	35.04 34.76	87.72 88.53	12.28 11.47	Total des capitaux. Terrains, batiments, aménagements, etc. Matières premières en stock, fonds de caisse, créances à recouvrer, etc.
39,370,818	41,728,505	14,798,252	13,620,580	59.75	40.25	72.68	27.32	
102,704,833	92,722,293	20,178,613	19,604,326	57.68	42.32	83.58	16.42	Total des recettes nettes par l'électri- cité vendue.
36,713,723 17,502,890 3,005,689 11,667,539 4,537,605	33,837,618 16,896,036 2,279,051 10,436,867 4,225,664	30,718,695 7,328,931 10,206 22,948,400 431,158	28,493,242 7,191,384 1,354 20,928,769 371,735	47.29 49.31 53.87 39.16 89.85	52.71 50.69 46.13 60.84 10.15	54.45 70.49 99.66 33.71 91.32	45.55 29.51 -34 66.29 8.68	Dépenses. Traitements, appoint. et salaires. Combustible. Achat de force motrice électrique. Impôts.
11,128	10,799	5,036	5,056	51.11	48.89	68.84	31.16	Nombre total du personnel.
30,718 14,969 15,749	25,524 12,542 12,982	12,195 2,100 10,095	11,899 1,830 9,979	52.10 64.76 43.73	47.90 35.24 56.27	71.58 87.70 69.94	28.42 12.30 39.06	Long. en milles des lignes sur poteaux. De transmission. De distribution.
796,298 656,444 127,878 10,998 978	728,872 591,944 114,825 22,103 —	759,585 636,037 105,976 17,003 569	735,133 615,513 100,903 18,717 —	47.16 — — — —	52.84 — — — —	51.18 — — — —	48.82 — — — —	Nombre total des abonnés des usines. Pour service domestique (1). Pour éclairage commercial (2). Pour force motrice (2). Pour éclairage des rues.
17,961,762	16,336,460	753	1,341	71.12	28.88	100.00		Total des kilowatt heures produits (milliers).

État de la machinerie (à l'exclusion de celle des usines auxiliaires)								Total Power Equipment in Auxiliary Plants Machines des usines auxiliaires	
Per cent of Cols. 1 and 2 Pourcent des col. 1 et 2				Per cent of Totals of Cols. 3, 4, 5 and 6 Pourcent des col. 3, 4, 5 et 6					
Commercial		Municipal		Commercial		Municipal			
1929	1928	1929	1928	1929	1928	1929	1928	1929	1928
7	8	9	10	11	12	13	14	15	16
71.54	70.63	28.46	29.37	100.00	100.00	100.00	100.00	171,888	159,233
71.00	72.76	29.00	27.24	—	—	—	—	—	—
72.99	72.15	27.01	27.85	97.76	98.14	90.90	91.1	—	—
59.60	53.91	40.40	46.09	—	—	—	—	50	39
56.62	53.69	43.38	46.31	0.42	0.48	0.81	1.0	15,866	13,828
45.16	42.86	54.84	57.14	—	—	—	—	—	37
31.12	24.09	68.88	75.91	1.38	0.97	7.71	7.3	148,799	141,982
76.30	75.96	23.70	24.04	—	—	—	—	36	26
65.49	61.80	34.51	38.20	0.44	0.41	0.58	0.6	7,223	3,423
72.63	71.46	27.37	28.54	100.00	100.00	100.00	100.00	146,251	135,440
65.31	65.69	34.69	34.31	—	—	—	—	102	85
72.63	71.46	27.37	28.54	99.82	99.8	99.85	99.8	143,947	133,197
90.20	87.36	9.80	12.64	—	—	—	—	13	8
76.13	74.85	23.87	25.15	0.18	0.2	0.15	0.2	2,304	2,243

Total, force motrice primaire..H.P.	
Turbines et roues hydrauliques.Nomb.	
H.P.	
Machines à vapeur.....Nomb.	
H.P.	
Turbines à vapeur.....Nomb.	
H.P.	
Moteurs à gaz et à pétrole.....Nomb.	
H.P.	
Total, force motrice secondaire.K.V.A.	
Dynamos, C.A.....Nomb.	
K.V.A.	
Dynamos, C.D.....Nomb.	
K.W.	

(1) Le service de la ferme est compris dans le service domestique.

(2) Les clients commerciaux pour éclairage et énergie avec charge de 50 K.W. et moins sont classifiés dans l'éclairage commercial, et avec débit de plus de 50 K.W. en énergie pour 1929.

Table 3—Electric Power Plants, 1929

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec	Ontario
Total Number of Power Generating Stations.....	585	11	47	20	94	132
Per cent of total for Canada.....	100.00	1.88	8.03	3.42	16.07	22.56
Commercial.....	420	9	27	15	81	75
Hydraulic.....	212	8	14	5	79	70
Fuel.....	208	1	13	10	2	5
Municipal.....	165	2	20	5	13	57
Hydraulic.....	88	—	14	3	11	52
Fuel.....	77	2	6	2	2	5
With water wheels and turbines.....	300	8	28	8	90	122
With steam engines only.....	55	—	5	6	1	7
With steam turbines only.....	16	—	6	1	1	—
With gas or oil engines only.....	201	2	6	4	1	3
With both steam engines and turbines...	12	1	2	1	1	—
With both steam and gas or oil engines..	1	—	—	—	—	—
With alternating current dynamos only..	424	10	42	13	92	123
With direct current dynamos only.....	157	1	4	6	1	9
With both alternating and direct current dynamos.....	4	—	1	1	1	—
Commercial organizations*.....	386	8	36	24	58	70
Number generating power.....	306	7	19	13	40	57
Number buying power for redistribution.	80	1	17	11	18	13
Municipalities*.....	466	2	31	15	33	298
Number generating power.....	112	2	15	5	10	20
Number buying power for redistribution.	354	—	16	10	23	278
AUXILIARY PLANTS.....	61	2	7	4	6	12
To Hydraulic Stations.....	48	2	4	—	6	9
To Non-generating Stations.....	13	—	3	4	—	3

* Organizations operating in two or more provinces are not shown under provinces but are included in total.

Tableau 3—Usines génératrices, 1929

Manitoba	Saskatchewan	Alberta	British Columbia and Yukon Colombie Britannique et Yukon	
30	144	52	55	Nombre d'usines génératrices.
5-13	24-62	8-89	9-40	Pourcentage du total pour le Canada.
14	112	41	46	Usines commerciales.
2	—	5	29	Hydrauliques.
12	112	36	17	A combustible.
16	32	11	9	Usines municipales.
2	—	1	5	Hydrauliques.
14	32	10	4	A combustible.
4	—	6	34	Avec roues et turbines hydrauliques seulement.
7	5	13	11	Avec machines à vapeur seulement.
—	4	2	2	Avec turbines à vapeur seulement.
17	132	28	8	Avec moteurs à gaz ou à pétrole seulement.
2	3	2	—	Avec machines et turbines à vapeur à la fois.
—	—	1	—	Avec machines à vapeur, à gaz et à pétrole.
22	49	27	46	Avec dynamos à courant alternatif seulement.
8	95	24	9	Avec dynamos à courant seulement.
—	—	1	—	Avec dynamos à courant alternatif et direct.
14	93	41	41	Usines commerciales.*
11	90	35	33	Nombre d'usines génératrices.
3	3	6	8	Nombre d'usines achetant de l'électricité pour la revendre.
21	33	14	17	Municipalités.*
13	30	8	7	Nombre d'usines génératrices.
8	3	6	10	Nombre d'usines achetant de l'électricité pour la revendre.
3	—	13	14	USINES AUXILIAIRES.
—	—	13	11	Usines hydrauliques.
—	—	—	3	Usines non-génératrices.

* Les organisations en exploitation dans deux provinces ou plus ne figurent pas sous les provinces, mais sont comprises dans le total.

Table 4—Capital, 1930

	Canada	Prince Edward Island — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec
	\$	\$	\$	\$	\$
Total Capital	1,055,731,532	821,340	16,094,608	26,215,709	421,000,578
Per cent of total for Canada.....	100.00	0.08	1.53	2.48	39.83
Generation.....	636,516,522	470,783	8,631,073	18,569,941	298,564,636
Transmission.....	170,922,282	—	2,515,931	3,142,334	59,707,289
Distribution.....	185,021,773	265,544	3,789,705	3,151,000	40,355,863
General.....	63,270,955	85,013	1,157,899	1,352,434	22,372,785
Total Capital in Commercial Stations	685,771,370	680,124	8,240,966	20,434,927	413,207,621
Generation.....	466,282,770	385,728	3,030,791	15,957,599	294,747,745
Transmission.....	97,686,475	—	1,543,000	2,052,208	59,440,683
Distribution.....	82,262,480	222,610	2,838,410	1,354,304	36,997,813
General.....	39,539,545	71,786	828,765	1,070,816	22,021,375
Non-generating stations.....	40,336,244	6,000	645,886	1,078,239	13,565,410
Generating stations.....	645,435,026	674,124	7,595,080	19,356,688	399,642,211
Hydraulic stations.....	626,472,456	129,641	3,789,705	15,342,654	399,579,727
Fuel stations.....	18,962,570	544,483	5,205,947	4,014,034	62,484
Total Capital in Municipal Stations	369,960,262	141,216	7,833,642	5,780,782	7,792,957
Generation.....	170,233,752	85,055	5,600,282	2,612,342	3,816,891
Transmission.....	73,235,807	—	972,931	1,090,126	266,601
Distribution.....	102,759,293	42,934	951,295	1,796,696	3,358,055
General.....	23,731,410	13,227	329,134	281,618	351,410
Non-generating stations.....	89,291,315	—	940,604	1,333,112	1,324,099
Generating stations.....	280,668,947	141,216	6,913,038	4,447,670	6,468,858
Hydraulic stations.....	264,393,435	—	6,226,892	4,325,014	4,679,363
Fuel stations.....	16,275,512	141,216	686,146	122,656	1,789,495
Total Capital in Non-generating Stations	129,327,559	6,000	1,586,490	2,411,351	11,889,509
Generation.....	712,167	—	231,349	292,744	—
Transmission.....	8,472,196	—	12,923	188,899	3,866,273
Distribution.....	104,119,075	6,000	1,067,222	1,487,447	10,089,409
General.....	16,324,121	—	274,996	442,261	933,827
Total Capital in Generating Stations	926,103,973	815,340	14,508,118	23,804,358	406,111,069
Generation.....	635,804,355	470,783	8,399,724	18,277,197	298,564,636
Transmission.....	162,450,086	—	2,503,008	2,953,435	55,841,016
Distribution.....	80,902,698	259,544	2,722,483	1,663,553	30,266,459
General.....	46,946,834	85,013	882,903	910,173	21,438,958
Hydraulic stations.....	890,865,891	129,641	8,616,025	19,667,668	404,259,090
Generation.....	617,120,489	79,350	6,247,818	15,465,075	297,964,823
Transmission.....	159,637,798	—	1,285,203	2,953,435	55,841,016
Distribution.....	69,557,470	45,850	812,452	850,154	29,125,748
General.....	44,550,134	4,441	270,552	399,004	21,327,503
Fuel Stations.....	35,238,082	685,699	5,892,093	4,136,690	1,851,979
Generation.....	18,683,866	391,433	2,151,906	2,812,122	599,813
Transmission.....	2,812,288	—	1,217,805	—	—
Distribution.....	11,345,228	213,694	1,910,031	813,399	1,140,711
General.....	2,396,700	80,572	612,351	511,169	111,455
TOTAL CAPITAL					
Average per H.P. of Primary Power.....	214	212	231	246	190
Average per H.P. including Auxiliary equipment.....	207	206	222	241	187
Average per K.V.A. of Dynamo Capacity.....	261	249	283	292	222
Average per K.V.A. including Auxiliary equipment.....	252	249	271	286	219
Generation					
Average cost per H.P. (Including Auxiliary equip- ment) —					
In all generating stations.....	125	118	119	172	133
In Hydraulic stations.....	126	139	144	182	133
In Fuel stations.....	90	115	79	131	94
Transmission Lines					
Average per pole line mile.....	10,014	—	5,517	8,424	12,354
Distribution Lines					
Average per pole line mile.....	7,159	2,124	2,981	3,252	7,532

Tableau 4—Capitaux, 1930

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
\$	\$	\$	\$	\$	
422,486,669 40-02	49,963,898 4-73	13,846,353 1-31	24,840,437 2-35	80,461,940 7-62	Total des capitaux— Pourcentage du total pour le Canada.
221,449,751	24,129,724	7,196,859	13,770,820	43,732,935	Génération.
82,115,729	7,606,703	1,419,953	4,588,954	9,825,389	Transmission.
93,740,957	14,012,965	4,670,479	5,440,690	19,594,565	Distribution.
25,180,232	4,214,506	559,062	1,039,973	7,309,051	Généralités.
116,480,638	24,847,361	5,484,127	18,569,042	77,826,464	Total des capitaux dans les usines commerciales.
80,525,066	15,905,203	2,151,353	11,033,208	42,546,077	Génération.
15,975,327	3,169,206	1,419,953	4,445,518	9,640,575	Transmission.
13,344,860	5,092,338	1,659,560	2,274,194	18,478,391	Distribution.
6,635,385	680,614	253,261	816,122	7,161,421	Généralités.
3,991,999	808,829	1,310,638	97,226	18,832,017	Non-productrices.
112,488,639	24,038,532	4,173,489	18,471,816	58,994,447	Productrices.
112,452,118	22,394,327	—	15,575,485	58,609,371	Hydrauliques.
36,521	1,644,205	4,173,489	2,896,331	385,076	A combustible.
306,006,031	25,116,537	8,362,226	6,271,395	2,635,476	Total des capitaux dans les usines municipales.
140,924,685	8,224,521	5,045,506	2,737,612	1,186,858	Génération.
66,140,402	4,437,497	—	143,436	184,814	Transmission.
80,396,067	8,920,627	3,010,919	3,166,496	1,116,174	Distribution.
18,544,847	3,533,892	305,801	223,851	147,630	Généralités.
80,622,072	2,352,128	25,020	1,744,114	950,166	Non-productrices.
225,383,959	22,764,409	8,337,206	4,527,281	1,685,310	Productrices.
225,273,951	22,054,118	—	237,480	1,596,617	Hydrauliques.
110,008	710,291	8,337,206	4,289,801	88,693	A combustible.
84,614,071	3,160,957	1,335,658	1,841,340	19,782,183	Total des capitaux dans les usines non-productrices.
102,248	—	—	—	85,826	Génération.
1,108,885	1,208,088	619,664	81,303	1,386,161	Transmission.
73,364,912	1,546,302	651,051	1,717,492	14,189,240	Distribution.
10,038,026	406,567	64,943	42,545	4,120,956	Généralités.
337,872,598	46,802,941	12,510,695	22,999,097	60,679,757	Total des capitaux dans les usines productrices.
221,347,503	24,129,724	7,196,859	13,770,820	43,647,109	Génération.
81,006,844	6,398,615	800,289	4,507,651	8,439,228	Transmission.
20,376,045	12,466,663	4,019,428	3,723,198	5,405,325	Distribution.
15,142,206	3,807,939	494,119	997,428	3,188,095	Généralités.
337,726,069	44,448,445	—	15,812,965	60,205,988	Hydrauliques.
221,268,810	22,626,699	—	10,068,363	43,399,551	Génération.
81,006,844	6,248,615	—	3,863,457	8,439,228	Transmission.
20,322,551	11,894,512	—	1,286,774	5,219,429	Distribution.
15,127,864	3,678,619	—	594,371	3,147,780	Généralités.
146,529	2,354,496	12,510,695	7,186,132	473,769	A combustible.
78,693	1,503,025	7,196,859	3,702,457	247,558	Génération.
—	150,000	800,289	644,194	—	Transmission.
53,494	572,151	4,019,428	2,436,424	185,896	Distribution.
14,342	129,320	494,119	403,057	40,315	Généralités.
CAPITAL TOTAL					
263	156	178	228	193	Moyenne par H.P. de la machinerie d'énergie primaire.
257	144	178	189	174	Moyenne par H.P. y compris machinerie auxiliaire.
328	199	211	281	259	Moyenne par K.V.A. de la capacité des dynamos.
320	181	211	231	231	Moyenne par K.V.A. y compris machinerie auxiliaire.
Génération					
135	69	93	105	94	Moyenne par H.P. y compris machinerie auxiliaire—
135	67	—	136	94	Dans les usines productrices.
86	157	93	64	90	Dans les usines hydrauliques.
Lignes de transmission					
13,109	7,135	1,411	2,379	8,604	Moyenne par mille de ligne sur poteaux.
Lignes de distribution					
7,877	9,752	4,513	4,595	7,076	Moyenne par mille de lignes sur poteaux.

Table 5—Revenue, 1929

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec — Québec
REVENUES	\$	£	£	\$	\$
Revenue from Sale of Electric Energy	122,883,446	203,185	3,087,911	2,208,666	40,910,068
Per cent of total for Canada.....	100.00	0.17	2.51	1.80	33.29
For domestic service ⁽¹⁾	33,627,863	100,398	1,078,401	778,910	8,662,863
For commercial light ⁽²⁾	23,303,726	65,319	1,037,319	502,865	7,417,462
For Power ⁽²⁾	61,560,330	20,737	779,902	830,415	23,691,528
For street lighting.....	4,391,527	16,731	192,289	96,476	1,138,215
Revenue of Commercial Stations	70,874,794	157,230	1,877,046	1,447,439	39,454,910
Non-generating.....	5,024,726	448	135,447	205,689	849,782
Generating.....	65,850,068	156,782	1,741,599	1,241,750	38,605,128
Hydraulic.....	61,696,360	24,052	353,664	619,749	38,585,844
Fuel.....	4,153,708	132,730	1,387,935	622,001	19,284,284
Revenue of Municipal Stations	52,008,652	45,955	1,210,865	761,227	1,455,158
Non-generating.....	15,153,887	—	274,670	293,450	371,269
Generating.....	36,854,765	45,955	936,195	467,777	1,083,888
Hydraulic.....	31,206,311	—	694,911	430,350	777,575
Fuel.....	5,648,454	45,955	241,284	37,427	306,314
Revenue of Non-generating stations	20,178,613	448	410,117	499,139	1,221,051
Revenue of Generating Stations	102,704,833	202,737	2,677,794	1,709,527	39,689,017
Revenue of Hydraulic Stations	92,902,671	24,052	1,048,575	1,050,099	39,363,418
Revenue of Fuel Stations	9,802,162	178,685	1,629,219	659,428	325,598
Average net revenue per h.p. of primary power	24.95	52.41	44.27	20.73	18.46
Average net revenue per h.p. in main and auxillary plants	24.11	51.03	42.54	20.26	18.20
Average net revenue per K.V.A. of dynamo capacity ..	30.36	61.63	54.32	24.56	21.53
Average net revenue per K.V.A. in main and auxillary plants	29.30	61.63	51.96	24.11	21.30
Average net revenue per k.w.hr. of all stations (cents)	0.68	7.45	2.87	1.76	0.47
Average net revenue per domestic service customer⁽¹⁾..	26.02	28.84	26.94	25.84	23.23
Average net revenue per commercial light customer⁽²⁾..	99.65	68.68	129.12	85.48	113.97
Average net revenue per power customer⁽²⁾.....	2,198.50	1,885.18	2,273.77	1,647.65	8,350.90

(1) Farm service is included with domestic service.

(2) Commercial light and power customers with loads of 50 K.W. and under are classified as commercial light, and with loads of over 50 K.W., as power.

(3) Power imported from Quebec is included in computation.

Tableau 5—Recettes, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
\$	\$	\$	\$	\$	RECETTES
51,169,734 41.64	6,442,510 5.24	1,169,590 3.39	4,386,380 3.57	10,305,402 8.39	Recettes provenant de la vente d'électricité. Pourcentage du total pour le Canada.
13,863,624 7,419,440 28,084,008 1,802,662	2,665,881 1,629,545 1,927,407 219,677	1,703,007 1,550,833 673,657 242,093	1,524,173 1,816,482 784,707 261,018	3,250,606 1,864,461 4,767,969 422,366	Pour service domestique. ⁽¹⁾ Pour éclairage commercial. ⁽²⁾ Pour force motrice. ⁽²⁾ Pour éclairage des rues.
12,037,478	3,237,684	1,132,715	1,966,801	9,563,491	Recettes des usines commerciales.
247,935 11,789,543 11,776,010 13,533	103,419 3,134,265 2,833,643 300,622	100,199 1,032,516 — 1,032,516	51,260 1,915,541 1,400,474 515,067	3,330,547 6,232,944 6,102,924 130,020	Non productrices. Productrices. Hydrauliques. A combustible.
39,132,256	3,204,826	3,036,875	2,419,579	741,911	Recettes des usines municipales.
12,800,265 26,331,991 26,287,188 44,803	300,670 2,904,156 2,618,716 285,440	8,104 3,028,771 — 3,028,771	791,392 1,628,187 35,893 1,592,294	314,067 427,844 361,678 66,166	Non productrices. Productrices. Hydrauliques. A combustible.
13,048,200	404,089	108,303	842,652	3,644,614	Recettes des usines non-génératrices.
38,121,534	6,038,421	4,061,287	3,543,728	6,660,788	Recettes des usines génératrices.
38,083,198	5,452,359	—	1,436,367	6,464,602	Recettes des usines hydrauliques.
58,336	586,062	4,061,287	2,107,361	196,186	Recettes des usines à combustible.
31.90	20.10	53.72	40.26	24.74	Moyenne des recettes nettes par h.p. de machinerie primaire dans les usines principales.
31.11	18.54	53.72	33.41	22.23	Moyenne des recettes nettes par h.p. de machinerie principale et auxiliaire.
39.73	25.71	63.43	49.67	33.20	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos des usines principales.
38.71	23.37	63.43	40.74	29.60	Moyenne des recettes nettes par K.V.A. de la capacité des dynamos principales et auxiliaires.
(1) 0.76	0.58	3.49	2.14	0.88	Moyenne des recettes nettes par K.W. Heure (cents) de toutes les usines.
25.56	35.94	38.50	27.75	24.98	Moyenne des recettes nettes par abonnés de service domestique. ⁽¹⁾
83.66	95.62	111.01	111.69	103.90	Moyenne des recettes nettes par abonné d'éclairage commercial. ⁽²⁾
1,828,03	1,019.25	715.89	476.74	1,067.85	Moyenne des recettes nettes par abonné force motrices. ⁽²⁾

(1) Le service de la ferme est compris dans le service domestique.

(2) Les clients commerciaux pour éclairage et énergie avec charge de 50 K.W. et moins sont classifiés dans l'éclairage commercial, et avec débit de plus de 50 K.W. en énergie.

(3) Force motrice importée de Québec est comprise dans la computation.

Table 6—Expenses, 1929

	Canada	Prince Edward Island — Île du Prince- Édouard	Nova Scotia — Nouvelle- Écosse	New Brunswick — Nouveau- Brunswick	Quebec
	\$	\$	\$	\$	\$
Total Expenses	67,432,418	87,420	1,893,663	1,247,126	13,611,657
Per cent of total for Canada.....	100.00	0.13	2.81	1.85	20.18
Salaries and wages.....	24,831,821	45,067	725,001	389,927	5,911,495
Fuel.....	3,015,895	36,806	215,973	191,765	37,530
Taxes.....	4,968,763	5,099	227,221	57,122	2,250,654
Cost of power.....	34,615,939	448	725,468	608,312	5,411,978
Total for Commercial Stations	31,888,591	70,940	1,383,457	716,895	12,816,717
Salaries and wages.....	12,245,048	37,847	501,477	241,146	5,588,228
Fuel.....	1,624,549	27,546	157,071	178,172	4,868
Taxes.....	4,464,299	5,099	225,234	56,612	2,240,001
Cost of power.....	13,554,695	448	499,675	240,965	4,983,620
Non-generating stations.....	6,231,664	448	181,791	269,127	723,534
Generating stations.....	25,656,927	70,492	1,201,666	447,768	12,093,183
Hydraulic stations.....	23,027,263	7,382	122,531	99,084	12,087,808
Fuel stations.....	2,629,664	63,110	1,079,135	348,684	5,375
Total for Municipal Stations	35,543,827	16,480	510,206	530,231	791,940
Salaries and wages.....	12,586,773	7,220	223,524	148,781	323,267
Fuel.....	1,391,346	9,260	58,902	13,593	32,662
Taxes.....	504,464	—	1,987	510	10,653
Cost of power.....	21,031,244	—	225,793	367,347	428,358
Non-generating stations.....	24,487,031	—	269,714	338,596	348,456
Generating stations.....	11,056,796	16,480	240,492	191,635	446,484
Hydraulic stations.....	8,200,751	—	107,325	171,989	164,906
Fuel stations.....	2,856,045	16,480	133,167	19,646	281,578
Total Expenses for Non-generating Stations	30,718,695	448	451,505	607,723	1,071,990
Salaries and wages.....	7,328,931	—	98,581	133,266	345,616
Fuel.....	10,206	—	1,042	740	1,500
Taxes.....	431,153	—	11,990	11,957	22,003
Cost of power.....	22,948,400	448	339,892	461,760	702,871
Total Expenses for Generating Stations	36,713,723	86,972	1,442,158	639,403	12,539,667
Salaries and wages.....	17,502,890	45,067	626,420	266,661	5,565,879
Fuel.....	3,005,689	36,806	214,931	191,025	36,030
Taxes.....	4,537,605	5,099	215,231	45,165	2,228,651
Cost of power.....	11,667,539	—	385,576	146,552	4,709,107
Hydraulic stations.....	31,228,014	7,382	229,856	271,073	12,252,714
Fuel stations.....	5,485,709	79,590	1,212,302	368,330	286,953

Tableau 6—Dépenses, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
\$	\$	\$	\$	\$	
35,378,524 52.47	3,443,565 5.11	2,198,679 3.26	2,481,523 3.68	7,090,261 10.51	Total des dépenses. Pourcentage du total pour le Canada.
11,113,872	1,928,708	913,808	1,160,322	2,643,621	Salaires et gages.
199,982	220,625	1,131,769	448,045	533,400	Combustible.
1,365,321	191,115	87,480	140,840	643,911	Taxes.
22,699,349	1,103,117	65,622	732,316	3,269,329	Achat d'énergie électrique.
6,833,232	1,832,178	641,028	900,445	6,693,699	Total pour les usines commerciales.
1,813,444	717,176	323,949	538,614	2,483,167	Salaires et gages.
180,439	141,441	231,255	201,256	502,501	Combustible.
1,038,461	154,903	31,639	68,657	643,693	Taxes.
3,800,888	818,658	54,185	91,918	3,064,338	Achat d'énergie électrique.
1,709,964	250,475	86,693	40,372	2,969,260	Usines non-productrices.
5,123,268	1,581,703	554,335	860,073	3,724,439	Usines productrices.
5,116,938	1,352,101	584,023	584,023	3,657,396	Usines hydrauliques.
6,330	229,602	554,335	276,050	67,043	Usines à combustible.
28,545,292	1,611,387	1,557,651	1,581,078	396,562	Total pour les usines municipales.
9,300,428	1,211,532	589,859	621,708	160,454	Salaires et gages.
19,543	79,184	900,514	246,789	30,899	Combustible.
326,860	36,212	55,841	72,183	218	Taxes.
18,898,461	284,459	11,437	640,898	204,991	Achat d'énergie électrique.
22,111,365	244,162	13,765	901,018	259,955	Usines non-productrices.
6,433,927	1,337,225	1,543,886	680,060	136,607	Usines productrices.
6,412,022	1,231,229	—	9,613	103,667	Usines hydrauliques.
21,905	135,996	1,543,886	670,447	32,940	Usines à combustibles.
23,821,329	494,637	100,458	941,390	3,229,215	Total des dépenses pour les usines non-productrices
5,141,880	174,784	32,474	238,111	1,164,219	Salaires et gages.
6,924	—	—	—	—	Combustible.
107,843	12,509	2,362	54,765	207,729	Taxes.
18,564,682	307,344	65,622	648,514	1,857,267	Achat d'énergie électrique.
11,557,195	2,948,928	2,098,221	1,540,133	3,861,046	Total des dépenses pour les usines productrices.
5,971,992	1,753,924	881,334	922,211	1,479,402	Salaires et gages.
193,058	220,625	1,131,769	448,045	533,400	Combustible.
1,257,478	178,606	85,118	86,075	436,182	Taxes.
4,134,667	795,773	—	83,802	1,412,062	Achat d'énergie électrique.
11,528,960	2,583,330	—	593,636	3,761,063	Usines hydrauliques.
28,235	365,598	2,098,221	946,497	99,983	Usines à combustible.

Table 7—Employees, 1929

	Canada	Prince Edward Island — Île du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec — Québec
Total Number of Persons Employed	16,164	39	618	327	3,975
Percent of total for Canada.....	100.00	0.24	3.82	2.02	24.59
Officers, clerks, other salaried employees, etc.....	6,814	16	259	162	1,676
Employees on wages.....	9,350	23	359	165	2,299
Total Employees in Commercial Stations	8,261	32	414	218	3,728
Officers, clerks, other salaried employees, etc.....	3,280	13	167	76	1,585
Employees on wages.....	4,981	19	247	142	2,143
Non-generating.....	1,162	—	45	50	274
Generating.....	7,099	32	369	168	3,454
Hydraulic.....	6,219	9	117	43	3,451
Fuel.....	880	23	252	125	3
Total Employees in Municipal Stations	7,993	7	204	109	247
Officers, clerks, other salaried employees, etc.....	3,534	3	92	86	91
Employees on wages.....	4,369	4	112	23	156
Non-generating.....	3,874	—	56	67	65
Generating.....	4,029	7	148	42	182
Hydraulic.....	3,243	—	96	36	110
Fuel.....	786	7	52	6	72
Total Employees in Non-generating Stations	5,036	—	161	117	339
Officers, clerks, other salaried employees, etc.....	2,481	—	54	63	153
Employees on wages.....	2,555	—	47	54	186
Total Employees in Generating Stations	11,128	39	517	210	3,636
Officers, clerks, other salaried employees, etc.....	4,333	16	205	99	1,523
Employees on wages.....	6,795	23	312	111	2,113
Hydraulic.....	9,462	9	213	79	3,561
Fuel.....	1,666	30	304	131	75

Tableau 7—Personnel, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
6,890	1,333	619	742	1,621	Total du personnel occupé.
42-63	8-25	3-83	4-59	10-03	Pourcentage du total pour le Canada.
2,986	438	345	297	635	Administrateurs, directeurs, commis et tous employés des bureaux.
3,904	895	274	445	986	Ouvriers et journaliers.
1,294	432	260	381	1,502	Personnel des usines commerciales.
418	113	185	142	581	Administrateurs, directeurs, commis et tous employés des bureaux.
876	319	75	239	921	Ouvriers et journaliers.
82	45	19	8	639	Non-productrices.
1,212	387	241	373	863	Productrices.
1,206	325	—	241	827	Hydrauliques.
6	62	241	132	36	A combustible.
5,596	901	359	361	119	Personnel des usines municipales.
2,568	325	160	155	54	Administrateurs, directeurs, commis et tous employés des bureaux.
3,028	576	199	206	65	Ouvriers et journaliers.
3,390	117	4	129	46	Non productrices.
2,206	784	355	232	73	Productrices.
2,196	733	—	9	63	Hydrauliques.
10	51	355	223	10	A combustible.
3,472	162	23	137	685	Total du personnel des usines non productrices.
1,702	35	16	67	391	Administrateurs, directeurs, commis et tous employés des bureaux.
1,770	127	7	70	294	Ouvriers et journaliers.
3,418	1,171	596	605	936	Total du personnel des usines productrices.
1,284	403	239	230	244	Administrateurs, directeurs, commis et tous employés des bureaux.
2,134	768	267	375	602	Ouvriers et journaliers.
3,402	1,058	—	250	800	Hydrauliques.
16	113	596	355	46	A combustible.

Table 8—Number of Customers, 1929

	Canada	Prince Edward Island — Ile du Prince Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec
Number of Customers	1,555,883	4,450	48,483	36,562	441,410
Per cent of total for Canada.....	100.00	0.29	3.12	2.35	28.37
(1) Domestic service.....	1,292,481	3,481	40,035	30,142	372,907
(2) Commercial light.....	233,854	951	8,034	5,883	65,081
(2) Power.....	28,001	11	343	504	2,837
Street lighting.....	1,547	7	71	33	585
Total Number of Customers of Commercial Stations.	733,698	3,643	32,146	19,114	100,039
(1) Domestic service.....	601,628	2,892	26,346	14,885	336,451
(2) Commercial light.....	118,416	735	5,629	3,880	60,499
(2) Power.....	12,608	11	131	330	2,535
Street lighting.....	1,046	5	40	19	554
Non-generating.....	162,241	42	6,513	8,155	26,572
Generating.....	571,457	3,601	25,633	10,959	373,467
Hydraulic.....	505,552	916	5,169	1,609	373,106
Fuel.....	65,905	2,685	20,464	9,350	361
Total Number of Customers of Municipal Stations.	822,185	807	16,337	17,448	41,371
(1) Domestic service.....	690,853	589	13,689	15,257	36,456
(2) Commercial light.....	115,438	216	2,405	2,003	4,582
(2) Power.....	15,393	—	212	174	302
Street lighting.....	501	2	31	14	31
Non-generating.....	597,344	—	8,487	12,424	17,306
Generating.....	224,841	807	7,850	5,024	24,065
Hydraulic.....	135,948	—	2,435	4,303	14,314
Fuel.....	88,893	807	5,415	721	9,751
Total Number of Customers of Non-generating Stations.	759,585	42	15,000	20,579	43,878
(1) Domestic service.....	636,037	37	12,707	17,095	38,199
(2) Commercial light.....	105,976	5	2,053	3,326	5,367
(2) Power.....	17,003	—	216	143	175
Street lighting.....	569	—	23	15	137
Total Number of Customers of Generating Stations.	796,298	4,408	33,483	15,983	397,532
Hydraulic stations.....	641,500	916	7,604	5,912	387,420
(1) Domestic service.....	537,617	760	6,165	5,339	325,846
(2) Commercial light.....	94,216	151	1,343	528	58,468
(2) Power.....	8,961	1	66	37	2,661
Street lighting.....	706	4	30	8	445
Fuel stations.....	154,798	3,492	25,879	10,071	10,112
(1) Domestic service.....	118,827	2,684	21,163	7,708	9,862
(2) Commercial light.....	33,662	795	4,638	2,029	1,246
(2) Power.....	2,037	10	61	324	1
Street lighting.....	272	3	17	10	3
Average Number of Domestic Service Customers per 100 of Population.	13.19	4.04	7.27	7.19	13.86

(1) Farm service is included with domestic service.

(2) Commercial light and power customers with loads of 50 K.W. and under are classified as commercial light, and with loads of over 50 K.W., as power.

Table 9—Pole Line Mileage, 1929

Pole Line Mileage	42,913	125	1,727	1,342	9,986
Per cent of total for Canada.....	100.00	0.29	4.02	3.13	23.27
For transmission.....	17,069	—	456	373	4,833
For distribution.....	25,844	125	1,271	969	5,153
Total Pole Line Mileage—Commercial Stations.	22,356	107	1,108	622	9,455
Non-generating.....	4,683	7	282	201	1,558
Generating.....	17,673	100	826	421	7,897
Hydraulic.....	15,278	64	457	178	7,887
Fuel.....	2,395	36	369	243	10
Total Pole Line Mileage—Municipal Stations.	20,557	18	619	720	531
Non-generating.....	7,512	—	224	204	233
Generating.....	13,045	18	395	516	298
Hydraulic.....	11,889	—	302	491	235
Fuel.....	1,156	18	93	25	63
Total Pole Line Mileage—Non-generating Stations.	12,195	7	506	405	1,791
Total Pole Line Mileage—Generating Stations.	30,718	118	1,221	937	8,195
Hydraulic stations.....	27,167	64	759	669	8,122
Fuel stations.....	3,551	54	462	268	73

Tableau 8—Consommateurs, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
646,917	93,173	59,321	73,003	152,564	Nombre de consommateurs.
41,58	5,99	3,81	4,69	9,80	Pourcentage du total pour le Canada.
549,488	74,177	44,226	54,933	130,092	Pour service domestique (1).
88,635	17,042	13,970	16,264	17,944	Pour éclairage commercial (2).
15,363	1,891	941	1,646	4,465	Pour force motrice (2).
381	63	184	160	63	Pour éclairage des rues.
67,518	33,657	29,308	23,344	133,857	Nombre total de consommateurs des usines commerciales.
52,117	26,101	13,200	15,327	114,309	Pour service domestique (1).
12,807	6,926	6,258	6,555	15,127	Pour éclairage commercial (2).
2,530	613	768	1,316	4,374	Pour force motrice (2).
64	17	154	146	47	Pour éclairage des rues.
10,225	7,460	3,271	1,430	98,573	Non-productrices.
57,293	26,197	17,109	21,914	35,284	Productrices.
57,067	21,398	—	13,293	32,994	Hydrauliques.
226	4,799	17,109	8,621	2,290	A combustible.
579,399	59,516	38,941	49,659	18,707	Nombre total de consommateurs des usines municipales.
490,371	48,076	31,026	39,606	15,783	Pour service domestique (1).
75,878	10,116	7,712	9,709	2,817	Pour éclairage commercial (2).
12,833	1,278	173	330	91	Pour force motrice (2).
317	46	30	14	16	Pour éclairage des rues.
517,955	6,521	394	21,965	12,292	Non-productrices.
61,444	52,995	38,547	27,694	6,415	Productrices.
60,713	48,278	—	727	5,178	Hydrauliques.
731	4,717	38,547	26,967	1,237	A combustible.
528,180	13,981	3,665	23,395	110,865	Nombre des abonnés des usines non-productrices.
441,022	11,784	2,368	19,646	93,179	Pour service domestique (1).
74,432	2,151	1,116	3,735	13,791	Pour éclairage commercial (2).
12,446	17	137	6	3,863	Pour force motrice (2).
280	29	44	8	32	Pour éclairage des rues.
118,737	79,192	55,636	49,608	41,699	Nombre total de consommateurs des usines productrices.
117,780	69,676	—	14,020	38,172	Hydrauliques.
100,672	55,494	—	9,110	34,231	Pour service domestique (1).
14,097	12,304	—	4,006	3,319	Pour éclairage commercial (2).
2,915	1,867	—	816	598	Pour force motrice (2).
96	11	—	88	24	Pour éclairage des rues.
957	9,516	55,656	35,588	3,527	A combustible—
794	6,899	41,858	26,177	2,682	Pour service domestique (1).
156	2,587	12,854	8,523	834	Pour éclairage commercial (2).
2	7	804	824	4	Pour force motrice (2).
5	23	140	64	7	Pour éclairage des rues.
16,58	11,18	5,10	8,50	21,90	Moyenne des consommateurs d'éclairage électrique par 100 habitants.

(1) Le service de la ferme est compris dans le service domestique.

(2) Les clients commerciaux pour éclairage et énergie avec charge de 50 K.W. et moins sont classifiés dans l'éclairage commercial, et avec débit de plus de 50 K.W. en énergie.

Tableau 9—Longueur (en milles) des lignes sur poteaux, 1929

18,165	2,503	2,041	3,113	3,911	Longueur totale en milles des lignes sur poteaux.
42,33	5,83	4,76	7,26	9,11	Pourcentage du total pour le Canada.
6,264	1,066	1,006	1,929	1,142	Pour la transmission.
11,901	1,437	1,035	1,184	2,769	Pour la distribution.
2,647	1,051	1,573	2,418	3,375	Pour le service des usines commerciales.
189	177	657	34	1,578	Non-productrices.
2,458	874	916	2,384	1,797	Productrices.
2,451	756	—	1,760	1,725	Hydrauliques.
7	118	916	624	72	A combustible.
15,518	1,452	468	695	536	Pour le service des usines municipales.
5,454	758	11	304	324	Non-productrices.
10,064	694	457	391	212	Productrices.
10,036	617	—	16	192	Hydrauliques.
28	77	457	375	20	A combustible.
5,643	935	668	338	1,902	Pour le service des usines non-productrices.
12,522	1,568	1,373	2,775	2,009	Pour le service des usines productrices.
12,487	1,373	—	1,776	1,917	Hydrauliques.
35	195	1,373	999	92	A combustible.

Table 10—Equipment, 1929

TOTAL EQUIPMENT INCLUDING AUXILIARY PLANT EQUIPMENT

	Canada Prince	Prince Edward Island Ile du Prince- Edouard	Nova Scotia Nouvelle- Ecosse	New Brunswick Nouveau- Brunswick	Quebec Québec
Total Primary Power..... H.P....	5,097,443	3,932	72,596	108,987	2,247,311
Per cent of total for Canada.....	100-00	0-08	1-42	2-14	44-09
Water wheels and turbines..... No.....	762	9	44	17	242
Total capacity..... H.P.....	4,718,927	464	42,623	85,160	2,211,392
Steam reciprocating engines..... No.....	149	2	24	16	10
Total capacity..... H.P.....	41,969	425	7,543	5,230	4,950
Steam turbines..... No.....	101	2	14	8	9
Total capacity..... H.P.....	305,672	2,173	21,475	17,465	29,646
Gas and oil engines..... No.....	382	6	15	9	4
Total capacity..... H.P.....	30,875	920	955	1,132	1,323
Total Dynamo Capacity..... K.V.A....	4,194,270	3,297	59,421	91,613	1,920,792
Per cent of total for Canada.....	100-00	0-08	1-42	2-18	45-80
Dynamos, A. C..... No.....	1,108	15	89	40	265
Total capacity..... K.V.A.....	4,185,125	3,289	58,206	90,335	1,920,272
Dynamos, D.C..... No.....	258	1	10	10	2
Total capacity..... K.W.....	9,145	8	1,215	1,278	520
Commercial Stations					
Total Primary Power..... H.P....	3,671,255	3,092	36,748	95,577	2,214,155
Water wheels and turbines..... No.....	541	9	20	11	221
Total capacity..... H.P.....	3,444,533	464	11,523	73,100	2,184,457
Steam engines..... No.....	95	2	17	14	4
Total capacity..... H.P.....	25,972	425	5,185	4,855	2,750
Steam turbines..... No.....	59	2	10	8	7
Total capacity..... H.P.....	180,032	2,173	19,900	17,465	25,625
Gas and oil engines..... No.....	292	1	5	4	4
Total capacity..... H.P.....	20,718	30	140	157	1,323
Total Dynamo Capacity..... K.V.A....	3,065,692	2,532	30,017	81,170	1,893,835
Dynamos, A.C..... No.....	733	10	44	28	235
Total capacity..... K.V.A.....	3,059,055	2,524	29,227	79,948	1,893,315
Dynamos, D.C..... No.....	231	1	8	9	2
Total capacity..... K.W.....	6,637	8	790	1,222	520
Municipal Stations					
Total Primary Power..... H.P....	1,426,188	890	35,848	13,410	33,156
Water wheels and turbines..... No.....	221	—	24	6	21
Total capacity..... H.P.....	1,274,394	—	31,100	12,060	26,935
Steam engines..... No.....	54	—	7	2	6
Total capacity..... H.P.....	15,997	—	2,358	375	2,200
Steam turbines..... No.....	42	—	4	—	2
Total capacity..... H.P.....	125,640	—	1,575	—	4,021
Gas and oil engines..... No.....	90	5	10	5	—
Total capacity..... H.P.....	10,157	890	815	975	—
Total Dynamo Capacity..... K.V.A....	1,128,578	765	29,404	10,443	26,957
Dynamos, A.C..... No.....	375	5	45	12	30
Total capacity..... K.V.A.....	1,126,070	765	28,979	10,387	26,957
Dynamos, D.C..... No.....	27	—	2	1	—
Total capacity..... K.W.....	2,508	—	425	56	—

Tableau 10—Machinerie, 1929

TOTAL DE L'OUTILLAGE Y COMPRIS CELUI D'USINES AUXILIAIRES

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	
1,644,664 32-26	347,471 6-82	77,623 1-52	131,280 2-58	463,529 9-09	Total, force motrice primaire..... H.P.
					Pourcentage du total pour le Canada.
338	32	—	17	63	Turbines et roues hydrauliques..... Nomb.
1,603,058	310,925	—	51,520	413,785	Capacité totale..... H.P.
18	16	14	33	16	Machines à vapeur..... Nomb.
3,723	4,687	3,963	9,444	2,004	Capacité totale..... H.O.
6	8	18	18	13	Turbines à vapeur..... Nomb.
36,540	29,240	58,634	66,050	44,489	Capacité totale..... H.P.
9	35	218	62	21	Moteurs à gaz et à pétrole..... Nomb.
1,383	2,619	15,026	4,206	3,251	Capacité totale..... H.P.
1,321,843 31-52	275,701 6-57	65,737 1-57	107,661 2-56	348,205 8-30	Capacité des dynamos..... K.V.A.
					Pourcentage du total pour le Canada.
338	74	100	80	107	Dynamos, C.A..... Nomb.
1,321,037	275,358	64,076	104,805	347,747	Capacité totale..... K.V.A.
11	14	149	46	15	Dynamos, C.D..... Nomb.
806	343	1,661	2,856	458	Capacité totale..... K.W.
Usines Commerciales					
553,818	224,037	13,703	81,781	448,344	Total, force motrice primaire..... H.P.
196	15	—	15	54	Turbines et roues hydrauliques..... Nomb.
516,064	205,800	—	50,560	402,565	Capacité totale..... H.P.
9	8	7	24	10	Machines à vapeur..... Nomb.
1,123	3,482	1,063	6,000	1,089	Capacité totale..... H.P.
4	4	2	7	15	Turbines à vapeur..... Nomb.
35,800	14,100	1,080	21,550	42,339	Capacité totale..... H.P.
5	14	181	57	21	Moteurs à gaz et à pétrole..... Nomb.
831	655	11,560	3,671	2,351	Capacité totale..... H.P.
476,424	169,350	10,611	64,345	337,408	Capacité des dynamos..... K.V.A.
188	31	57	54	86	Dynamos, C.A..... Nomb.
476,068	169,237	9,147	62,639	336,950	Capacité totale..... K.V.A.
10	7	135	44	15	Dynamos, C.D..... Nomb.
356	113	1,464	1,706	458	Capacité totale..... K.W.
Usines Municipales					
1,090,846	123,434	63,920	49,499	15,155	Total force motrice primaire..... H.P.
142	17	—	2	9	Turbines et roues hydrauliques..... Nomb.
1,086,994	105,125	—	960	11,220	Capacité totale..... H.P.
9	8	7	9	6	Machines à vapeur..... Nomb.
2,600	1,205	2,900	3,444	915	Capacité totale..... H.P.
2	4	16	11	3	Turbines à vapeur..... Nomb.
700	15,140	57,554	44,500	2,150	Capacité totale..... H.P.
4	21	37	5	3	Moteurs à gaz et à pétrole..... Nomb.
552	1,964	3,466	595	900	Capacité totale..... H.P.
845,419	106,351	55,126	43,316	10,797	Capacité des dynamos..... K.V.A.
150	43	43	26	21	Dynamos, C.A..... Nomb.
844,969	106,121	54,929	42,166	10,797	Capacité totale..... K.V.A.
1	7	14	2	—	Dynamos, C.D..... Nomb.
450	230	197	1,150	—	Capacité totale..... K.W.

Table 11—Auxiliary Plant Equipment, 1929

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec
Total Primary Power..... H.P....	171,888	165	2,848	2,425	29,533
Per cent of total for Canada.....	100.00	0.06	1.66	1.41	17.18
Steam reciprocating engines..... No....	50	1	11	7	4
Total capacity..... H.P....	15,866	75	2,588	1,850	2,750
Steam turbines..... No....	39	—	—	—	6
Total capacity..... H.P....	148,799	—	—	—	25,500
Gas and oil engines..... No....	36	—	2	3	3
Total capacity..... H.P....	7,223	30	260	575	1,283
Total Secondary Power..... K.V.A..	146,251	—	2,572	1,705	25,757
Commercial Stations					
Total Primary Power..... H.P....	147,630	105	945	1,525	29,533
Steam reciprocating engines..... No....	36	1	6	5	4
Total capacity..... H.P....	11,193	75	865	1,475	2,750
Steam turbines..... No....	31	—	—	—	6
Total capacity..... H.P....	131,209	—	—	—	25,500
Gas and oil engines..... No....	28	1	1	1	3
Total capacity..... H.P....	5,228	30	80	50	1,283
Total Secondary Power..... K.V.A..	125,482	—	821	1,108	25,757
Municipal Stations					
Total Primary Power..... H.P....	24,258	—	1,903	900	—
Steam reciprocating engines..... No....	14	—	5	2	—
Total capacity..... H.P....	4,673	—	1,723	375	—
Steam turbines..... No....	8	—	—	—	—
Total capacity..... H.P....	17,580	—	—	—	—
Gas and oil engines..... No....	8	—	1	2	—
Total capacity..... H.P....	1,995	—	180	525	—
Total Secondary Power..... K.V.A..	20,769	—	1,751	597	—

Tableau 11—Machines des usines auxiliaires, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie britannique et Yukon	
40,690 23.67	26,980 15.70	—	22,328 12.99	46,979 27.33	Total force motrice primaire..... H.P.
					Pourcentage du total pour le Canada.
10	—	—	14	3	Machines à vapeur..... Nomb.
2,940	—	—	4,688	975	Capacité totale..... H.P.
6	6	—	5	16	Turbines à vapeur..... Nomb.
36,500	26,740	—	16,250	43,809	Capacité totale..... H.P.
5	2	—	11	9	Moteurs à gaz et à pétrole..... Nomb.
1,250	240	—	1,390	2,195	Capacité totale..... H.P.
33,853	25,163	—	19,355	37,846	Machinerie développant la fore motrice secondaire..... K.V.A.
					Usines commerciales
37,490 5 890 4	12,000 — — 3	—	22,328 14 4,688 5	43,704 1 450 13	Total force motrice primaire..... H.P.
35,800	12,000	—	16,250	41,659	Machines à vapeur..... Nomb.
3	—	—	11	8	Capacité totale..... H.P.
800	—	—	1,390	1,595	Turbines à vapeur..... Nomb.
					Capacité totale..... H.P.
31,888	11,250	—	19,355	35,303	Machinerie développant la force motrice se- condaire..... K.V.A.
					Usines municipales
3,200 5 2,050 2 700 2 450	14,980 — — 3 14,740 2 240	—	—	3,275 2 525 3 2,150 1 600	Total force motrice primaire..... H.P.
					Machines à vapeur..... Nomb.
					Capacité totale..... H.P.
					Turbines à vapeur..... Nomb.
					Capacité totale..... H.P.
					Moteurs à gaz et à pétrole..... Nomb.
					Capacité totale..... H.P.
1,965	13,913	—	—	2,543	Machinerie développant la force motrice se- condaire..... K.V.A.

Table 12—Main Plant Equipment, 1929

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse	New Brunswick — Nouveau- Brunswick	Quebec
Total Primary Power.....H.P....					
Per cent of total for Canada.....	4,925,555	3,877	69,748	106,562	2,217,778
Water wheels and turbines.....	100-00	0-08	1-41	2-16	45-03
Total capacity.....H.P....	762	9	44	17	242
Steam reciprocating engines.....	4,718,927	464	42,023	85,160	2,211,392
Total capacity.....H.P....	99	1	13	9	6
Steam turbines.....	26,103	350	4,955	3,380	2,200
Total capacity.....H.P....	62	2	14	8	3
Gas and oil engines.....	156,873	2,173	21,475	17,465	4,146
Total capacity.....H.P....	346	5	13	6	1
Total capacity.....H.P....	23,652	890	695	557	40
Total Dynamo Capacity.....K.V.A....					
Per cent of total for Canada.....	4,048,919	3,297	56,849	89,908	1,895,035
Dynamos, A.C.....	100-00	0-08	1-41	2-22	46-81
Total capacity.....K.V.A....	1,006	15	76	31	254
Dynamos, D.C.....	4,041,178	3,289	56,059	88,863	1,894,515
Total capacity.....K.W....	245	1	8	9	2
Total capacity.....K.W....	6,841	8	790	1,045	520
Commercial Stations					
Total Primary Power.....H.P....					
Per cent of total for Canada.....	3,523,625	2,987	35,893	94,052	2,184,622
Water wheels and turbines.....	100-00	0-09	1-01	2-67	62-00
Total capacity.....H.P....	541	9	20	11	221
Steam reciprocating engines.....	3,444,533	464	11,523	73,100	2,184,457
Total capacity.....H.P....	59	1	11	9	—
Steam turbines.....	14,779	350	4,320	3,380	—
Total capacity.....H.P....	28	2	10	8	—
Gas and oil engines.....	48,823	2,173	19,900	17,465	125
Total capacity.....H.P....	264	—	4	3	1
Total capacity.....H.P....	15,490	—	60	107	40
Total Dynamo Capacity.....K.V.A....					
Per cent of total for Canada.....	2,940,210	2,532	29,196	80,062	1,868,078
Dynamos, A.C.....	100-00	0-09	0-99	2-72	63-54
Total capacity.....K.V.A....	657	10	37	23	224
Dynamos, D.C.....	2,935,002	2,524	28,406	79,073	1,867,558
Total capacity.....K.W....	221	1	8	8	2
Total capacity.....K.W....	5,208	8	790	989	520
Municipal Stations					
Total Primary Power.....H.P....					
Per cent of total for Canada.....	1,401,930	890	33,945	12,510	33,156
Water wheels and turbines.....	100-00	0-06	2-42	0-89	2-37
Total capacity.....H.P....	221	—	24	6	21
Steam reciprocating engines.....	1,274,394	—	31,100	12,060	26,935
Total capacity.....H.P....	40	—	2	—	6
Steam turbines.....	11,324	—	635	—	2,200
Total capacity.....H.P....	34	—	4	—	2
Gas and oil engines.....	108,050	—	1,575	—	4,021
Total capacity.....H.P....	82	5	9	3	—
Total capacity.....H.P....	8,162	890	635	450	—
Total Dynamo Capacity.....K.V.A....					
Per cent of total for Canada.....	1,107,809	765	27,653	9,846	26,957
Dynamos, A.C.....	100-00	0-07	2-50	0-89	2-43
Total capacity.....K.V.A....	349	5	39	8	30
Dynamos, D.C.....	1,106,176	765	27,653	9,790	26,957
Total capacity.....K.W....	24	—	—	1	—
Total capacity.....K.W....	1,633	—	—	56	—
Hydraulic Stations					
Total Dynamo Capacity.....K.V.A....					
Per cent of total for Canada.....	3,875,458	407	34,935	73,225	1,889,577
Dynamos, A.C.....	100-00	0-01	0-90	1-89	48-76
Total capacity.....K.V.A....	736	7	44	15	244
Dynamos, D.C.....	3,874,500	399	34,935	73,100	1,889,057
Total capacity.....K.W....	12	1	—	1	2
Total capacity.....K.W....	958	8	—	125	520
Fuel Stations					
Total Dynamo Capacity.....K.V.A....					
Per cent of total for Canada.....	172,561	2,890	21,914	16,683	5,458
Dynamos, A.C.....	100-00	1-67	12-70	9-67	3-16
Total capacity.....K.V.A....	270	8	32	16	10
Dynamos, D.C.....	166,678	2,890	21,124	15,763	5,458
Total capacity.....K.W....	233	—	8	8	—
Total capacity.....K.W....	5,883	—	790	920	—

Tableau 12—Machines des usines principales, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon Colombie Britannique et Yukon	
1,603,974	320,491	77,623	108,952	416,550	Machinerie fournis la force motrice primaire H.P.
32-56	6-51	1-58	2-21	8-46	Pourcentage du total pour le Canada.
338	32	—	17	63	Turbines et roues hydrauliques..... Nomb.
1,603,058	310,925	—	51,520	413,785	Capacité totale..... H.P.
8	16	14	19	13	Machines à vapeur..... Nomb.
783	4,687	3,963	4,756	1,029	Capacité totale..... H.P.
—	2	18	13	2	Turbines à vapeur..... Nomb.
—	2,500	58,634	49,800	680	Capacité totale..... H.P.
4	33	218	51	15	Moteurs à gaz et à pétrole..... Nomb.
133	2,379	15,026	2,876	1,056	Capacité totale..... H.P.
1,287,990	250,538	65,737	88,306	310,359	Capacité totale de l'ensemble des dynamos... K.V.A.
31-82	6-19	1-62	2-18	7-67	Pourcentage du total pour le Canada.
326	66	100	57	81	Dynamos, C.A..... Nomb.
1,287,634	250,195	64,076	86,633	309,914	Capacité totale..... K.V.A.
10	14	149	39	13	Dynamos, C.D..... Nomb.
356	343	1,661	1,673	445	Capacité totale..... K.W.
Usines commerciales					
516,328	212,037	13,703	59,453	404,640	Machinerie fournis la force motrice primaire H.P.
14-65	6-02	0-39	1-69	11-48	Pourcentage du total pour le Canada.
196	15	—	15	54	Turbines et roues hydrauliques..... Nomb.
516,064	205,800	—	50,560	402,565	Capacité totale..... H.P.
4	8	7	10	9	Machines à vapeur..... Nomb.
233	3,482	1,063	1,312	639	Capacité totale..... H.P.
—	1	2	2	2	Turbines à vapeur..... Nomb.
—	2,100	1,080	5,300	680	Capacité totale..... H.P.
2	14	181	46	13	Moteurs à gaz et à pétrole..... Nomb.
31	655	11,560	2,281	756	Capacité totale..... H.P.
444,536	158,100	10,611	44,990	302,105	Capacité totale de l'ensemble des dynamos... K.V.A.
15-12	5-38	0-36	1-63	10-27	Pourcentage du total pour le Canada.
181	28	57	31	66	Dynamos, C.A..... Nomb.
444,180	157,987	9,147	44,467	301,660	Capacité totale..... K.V.A.
10	7	135	37	13	Dynamos, C.D..... Nomb.
356	113	1,464	523	445	Capacité totale..... K.W.
Usines municipales					
1,087,646	108,454	63,920	49,499	11,910	Machinerie fournis la force motrice primaire H.P.
77-58	7-74	4-56	3-53	0-85	Pourcentage du total pour le Canada.
142	17	—	2	9	Turbines et roues hydrauliques..... Nomb.
1,086,994	105,125	—	960	11,220	Capacité totale..... H.P.
4	8	7	9	4	Machines à vapeur..... Nomb.
550	1,205	2,900	3,444	390	Capacité totale..... H.P.
—	1	16	11	—	Turbines à vapeur..... Nomb.
—	400	57,554	44,500	—	Capacité totale..... H.P.
2	19	37	5	2	Moteurs à gaz et à pétrole..... Nomb.
102	1,724	3,466	595	300	Capacité totale..... H.P.
843,454	92,438	55,126	43,316	8,254	Capacité totale de l'ensemble des dynamos... K.V.A.
76-14	8-34	4-98	3-90	0-75	Pourcentage du total pour le Canada.
145	38	43	26	15	Dynamos, C.A..... Nomb.
843,454	92,208	54,929	42,166	8,254	Capacité totale..... K.V.A.
—	7	14	2	—	Dynamos, C.D..... Nomb.
—	230	197	1,150	—	Capacité totale..... K.W.
Usines hydrauliques					
1,287,491	243,412	—	38,200	308,208	Capacité totale de l'ensemble des dynamos... K.V.A.
33-22	6-28	—	0-99	7-95	Pourcentage du total pour le Canada.
318	32	—	13	63	Dynamos, C.A..... Nomb.
1,287,259	243,412	—	38,200	308,138	Capacité totale..... K.V.A.
6	—	—	—	2	Dynamos, C.D..... Nomb.
235	—	—	—	70	Capacité totale..... K.W.
Usines à combustible					
496	7,126	65,737	50,106	2,151	Capacité totale de l'ensemble des dynamos... K.V.A.
0-29	4-13	38-09	29-04	1-25	Pourcentage du total pour le Canada.
8	34	100	44	18	Dynamos, C.A..... Nomb.
375	6,783	64,076	48,433	1,776	Capacité totale..... K.V.A.
4	14	149	39	11	Dynamos, C.D..... Nomb.
121	343	1,661	1,673	375	Capacité totale..... K.W.

Table 13—Main Plant Equipment Classified, 1929

	Canada	Prince Edward Island — Ile du Prince- Edouard	Nova Scotia — Nouvelle- Ecosse
Primary Power—Force motrice primaire.	4,925,555	3,877	69,748
Water wheels and turbines—Roues hydrauliques et turbines. Total No.	762	9	44
Under—Au-dessous de 500 H.P. Total H.P.	4,718,927	464	42,623
500— 2,000 H.P. No.	182	9	26
2,000— 5,000 H.P. Total H.P.	34,008	464	5,283
5,000—10,000 H.P. No.	206	—	11
10,000—15,000 H.P. Total H.P.	235,744	—	14,800
15,000—25,000 H.P. No.	118	—	7
25,000 up. Total H.P.	351,625	—	22,540
Steam reciprocating engines—Machines à vapeur. Total No.	92	—	—
Under—Au-dessous de 500 H.P. Total H.P.	606,850	—	—
500 up. No.	73	—	—
Steam turbines—Turbines à vapeur. Total H.P.	833,300	—	—
Under—Au-dessous de 500 H.P. No.	44	—	—
500 up. Total H.P.	803,500	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total No.	47	—	—
Under—Au-dessous de 500 H.P. Total H.P.	1,853,900	—	—
500 up. Total No.	99	1	13
Under—Au-dessous de 500 H.P. Total H.P.	26,103	350	4,955
500 up. No.	86	1	11
Steam turbines—Turbines à vapeur. Total H.P.	13,793	350	3,155
Under—Au-dessous de 500 H.P. No.	13	—	2
500 up. Total H.P.	12,310	—	1,800
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total No.	62	2	14
Under—Au-dessous de 500 H.P. Total H.P.	156,873	2,173	21,475
500— 2,000 H.P. No.	11	—	5
2,000— 5,000 H.P. Total H.P.	2,835	—	1,075
5,000—10,000 H.P. No.	20	2	5
10,000—15,000 H.P. Total H.P.	20,106	2,173	5,700
15,000—25,000 H.P. No.	22	—	3
25,000 up. Total H.P.	63,491	—	9,400
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total No.	9	—	1
Under—Au-dessous de 500 H.P. Total H.P.	70,441	—	5,300
500 up. Total No.	346	5	13
Under—Au-dessous de 500 H.P. Total H.P.	23,652	890	695
500 up. Total No.	1,251	16	84
Under—Au-dessous de 500 H.P. Total K.V.A.	4,048,019	3,297	56,849
500 up. Total No.	1,006	15	76
Under—Au-dessous de 50 K.V.A. Total K.V.A.	4,041,178	3,289	56,059
50— 200 K.V.A. No.	67	4	11
200— 500 K.V.A. Total K.V.A.	2,133	133	407
500— 1,000 K.V.A. No.	187	7	18
1,000— 5,000 K.V.A. Total K.V.A.	20,520	731	1,998
5,000—10,000 K.V.A. No.	136	2	19
10,000—15,000 K.V.A. Total K.V.A.	41,385	550	5,414
15,000—25,000 K.V.A. No.	138	1	7
25,000 up. Total K.V.A.	101,100	625	4,400
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total No.	252	1	21
Under—Au-dessous de 50 K.W. Total K.W.	574,433	1,250	43,840
50— 200 K.W. No.	95	—	—
200— 500 K.W. Total K.V.A.	667,192	—	—
500— 1,000 K.V.A. No.	59	—	—
1,000— 5,000 K.V.A. Total K.V.A.	631,165	—	—
5,000—10,000 K.V.A. No.	32	—	—
10,000—15,000 K.V.A. Total K.V.A.	605,250	—	—
15,000—25,000 K.V.A. No.	40	—	—
25,000 up. Total K.V.A.	1,398,000	—	—
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total No.	245	1	8
Under—Au-dessous de 50 K.W. Total K.W.	6,841	8	790
50— 200 K.W. No.	223	1	4
200— 500 K.W. Total K.W.	2,675	8	40
500 up. No.	15	—	2
Gas and Oil Engines—Moteurs à gaz et à pétrole. Total K.W.	1,116	—	200
Under—Au-dessous de 50 K.W. No.	4	—	2
50— 200 K.W. Total K.W.	1,150	—	550
200— 500 K.W. No.	3	—	—
500 up. Total K.W.	1,900	—	—

Tableau 13—Machines des usines principales classifiées, 1929

New Brunswick — Nouveau-Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon — Colombie Britannique et Yukon	Commercial — Commerciales	Municipal — Municipales
106,562	2,217,778	1,603,974	320,491	77,623	108,952	416,550	3,523,625	1,401,930
17	242	338	32	—	17	63	541	221
85,160	2,211,392	1,603,058	310,925	—	51,520	413,785	3,444,533	1,274,394
6	31	85	1	—	10	14	133	49
1,660	6,358	15,883	125	—	1,920	2,315	22,689	11,319
1	69	116	—	—	—	9	126	80
1,000	79,034	129,640	—	—	—	11,270	139,219	96,525
6	34	55	4	—	2	10	88	30
17,500	98,950	159,635	12,800	—	8,000	32,200	266,575	85,050
1	29	25	21	—	4	12	71	21
5,000	198,550	166,700	130,000	—	23,600	83,000	475,050	131,800
—	32	33	—	—	—	8	56	17
—	342,100	393,700	—	—	—	97,500	621,100	212,200
3	17	15	—	—	1	8	29	15
60,000	352,500	235,500	—	—	18,000	137,500	568,000	235,500
—	30	9	6	—	—	2	38	9
—	1,133,900	502,000	168,000	—	—	50,000	1,351,900	502,000
9	6	8	16	14	19	13	59	40
3,380	2,200	783	4,687	3,963	4,756	1,029	14,779	11,324
6	5	8	15	11	16	13	52	34
480	1,500	783	2,437	1,613	2,446	1,029	7,329	6,464
3	1	—	1	3	3	—	7	6
2,900	700	—	2,250	2,350	2,310	—	7,450	4,860
8	3	—	2	18	13	2	28	34
17,465	4,146	—	2,500	58,634	49,800	680	48,823	108,050
1	1	—	1	2	—	1	6	5
250	125	—	400	805	—	180	1,290	1,545
5	1	—	—	4	2	1	13	7
4,215	1,340	—	—	4,178	2,000	500	12,433	7,673
1	1	—	1	8	8	—	7	15
3,000	2,681	—	2,100	24,210	22,100	—	19,800	43,691
1	—	—	—	4	3	—	2	7
10,000	—	—	—	29,441	25,700	—	15,300	55,141
6	1	4	33	218	51	15	264	82
557	40	133	2,379	15,026	2,876	1,056	15,490	8,162
40	256	336	80	249	96	94	878	373
89,908	1,895,035	1,287,990	250,538	65,737	98,306	310,359	2,940,210	1,107,809
31	254	326	66	100	57	81	657	349
88,863	1,894,515	1,287,634	250,195	64,076	86,633	309,914	2,935,002	1,106,176
—	4	10	9	18	5	6	37	30
9	130	320	257	647	106	133	1,146	987
1,140	18	33	17	43	20	22	114	73
4	2,049	4,001	1,518	4,537	2,058	2,488	12,023	8,497
1,593	25	44	7	19	11	5	81	55
5	7,901	13,196	2,257	5,738	3,131	1,605	23,607	17,778
9	44	66	—	6	3	6	90	48
3,655	33,815	48,700	—	3,529	2,088	4,288	65,815	35,285
22,475	145,470	200,285	49,413	24,625	40,500	46,575	391,916	182,517
1	22	42	11	4	2	13	60	35
7,500	141,900	319,092	70,750	25,000	11,250	91,700	409,180	258,012
—	29	23	—	—	1	6	45	14
—	298,000	245,040	—	—	12,500	75,625	485,065	146,100
3	16	1	6	—	1	5	31	1
52,500	309,250	15,000	126,000	—	15,000	87,500	590,250	15,000
—	31	9	—	—	—	—	31	9
—	956,000	442,000	—	—	—	—	956,000	442,000
9	2	10	14	149	39	13	221	24
1,045	520	356	343	1,661	1,673	445	5,208	1,633
4	1	6	12	148	35	12	204	19
89	20	121	218	1,611	323	245	2,373	302
4	—	4	2	1	2	—	12	3
306	—	235	125	50	200	—	935	181
—	—	—	—	—	1	1	3	1
—	—	—	—	—	400	200	750	400
1	1	—	—	—	1	—	2	1
650	500	—	—	—	750	—	1,150	750

CENSUS OF INDUSTRY

Table 14—Electric Energy Generated, 1929

	Canada	Prince Edward Island — Île du Prince- Édouard	Nova Scotia — Nouvelle- Écosse	New Brunswick — Nouveau- Brunswick	Quebec
ALL STATIONS					
Total K.W. Hours generated.....(thousands)	17,962,515	2,726	107,467	125,267	8,661,334
Per cent of total for Canada.....	100.00	0.01	0.60	0.70	48.24
K.W. hours generated by non-generating sta- tions.....(thousands)	753	—	56	18	4
K.W. hours generated by generating stations.....(thousands)	17,961,762	2,726	107,411	125,249	8,664,330
K.V.A. capacity of generating stations.....	4,187,941	3,297	57,443	89,908	1,920,792
Ratio of output to maximum capacity.....(p.c.)	50.0	10.2	22.9	20.4	52.6
Average K.W. hours per K.V.A.....	4,289	827	1,870	1,393	4,511
GENERATING STATIONS					
Commercial Stations					
Total					
K.W. hours generated.....(thousands)	12,774,085	2,191	38,926	102,020	8,611,561
K.V.A. capacity.....	3,064,082	2,532	29,665	80,062	1,893,835
Ratio of output to maximum capacity.....(p.c.)	48.8	9.9	17.3	19.4	52.9
Average K.W. hours per K.V.A.....	4,169	865	1,312	1,274	4,547
Hydraulic Stations					
K.W. hours generated.....(thousands)	12,696,160	211	18,970	74,397	8,611,404
K.V.A. capacity.....	3,001,364	407	10,084	63,775	1,893,695
Ratio of output to maximum capacity.....(p.c.)	49.4	5.9	21.9	17.6	52.9
Average K.W. hours per K.V.A.....	4,230	518	1,881	1,167	4,547
Fuel Stations					
K.W. hours generated.....(thousands)	77,925	1,980	19,956	27,623	157
K.V.A. capacity.....	62,718	2,125	19,581	16,287	140
Ratio of output to maximum capacity.....(p.c.)	16.3	10.6	14.4	26.8	12.8
Average K.W. hours per K.V.A.....	1,242	932	1,019	1,696	1,121
Municipal Stations					
Total					
K.W. hours generated.....(thousands)	5,187,677	535	68,485	23,229	52,769
K.V.A. capacity.....	1,123,859	765	27,778	9,846	26,957
Ratio of output to maximum capacity.....(p.c.)	53.3	11.5	28.1	26.9	27.7
Average K.W. hours per K.V.A.....	4,616	699	2,465	2,359	1,958
Hydraulic Stations					
K.W. hours generated.....(thousands)	4,997,461	—	64,784	22,511	50,574
K.V.A. capacity.....	1,014,010	—	25,445	9,450	21,639
Ratio of output to maximum capacity.....(p.c.)	56.7	—	29.1	27.2	30.7
Average K.W. hours per K.V.A.....	4,928	—	2,546	2,382	2,337
Fuel Stations					
K.W. hours generated.....(thousands)	190,216	535	3,701	718	2,195
K.V.A. capacity.....	109,843	765	2,333	396	5,318
Ratio of output to maximum capacity.....(p.c.)	21.0	11.5	18.1	20.7	8.3
Average K.W. hours per K.V.A.....	1,732	699	1,586	1,813	413
Total Hydraulic Stations					
K.W. hours generated.....(thousands)	17,693,621	211	83,754	96,908	8,661,978
K.V.A. capacity.....	4,015,380	407	35,529	73,225	1,915,334
Ratio of output to maximum capacity.....(p.c.)	51.2	5.9	27.1	19.1	52.6
Average K.W. hours per K.V.A.....	4,406	518	2,357	1,323	4,522
K.W. hours generated by water power.....	17,603,804	204	83,731	96,908	8,661,763
K.W. hours generated by auxiliary plants.....	89,817	7	23	—	215
Total Fuel Stations					
K.W. hours generated.....(thousands)	268,141	2,515	23,657	28,341	2,352
K.V.A. capacity.....	172,561	2,890	21,914	16,683	5,458
Ratio of output to maximum capacity.....(p.c.)	19.4	10.8	14.9	26.6	8.5
Average K.W. hours per K.V.A.....	1,554	870	1,080	1,699	431

Tableau 14—Énergie électrique produite, 1929

Ontario	Manitoba	Saskatchewan	Alberta	British Columbia and Yukon Colombie Britannique et Yukon	
TOUTES USINES					
6,453,510 35.93	1,108,192 6.17	119,455 0.66	205,351 1.14	1,176,213 6.55	Total K.W. heures produits (milliers). Pourcentage du total pour le Canada.
675	—	—	—	—	K.W. heures produits par les usines non-génératrices (milliers)
6,452,835	1,108,192	119,455	205,351	1,176,213	K.W. heures produits par les usines génératrices (milliers).
1,319,878	275,701	65,737	107,661	347,524	Capacité des usines génératrices en K.V.A.
56.1	45.9	20.9	25.5	39.1	Proportion de la production à la capacité (p.c.).
4,889	4,020	1,817	1,907	3,385	Moyenne des K.W. heures par K.V.A.
USINES GÉNÉRATRICES					
Usines commerciales					
Total					
2,014,688	702,395	9,691	135,626	1,156,987	K.W. heures produits (milliers).
476,424	169,350	10,611	64,345	337,258	Capacité en K.V.A.
48.6	47.4	10.4	29.7	39.3	Proportion de la production à la capacité (p.c.).
4,229	4,148	913	2,108	3,431	Moyenne des heures K.W. par K.V.A.
Stations à combustible					
2,014,501	696,993	—	124,294	1,155,390	K.W. heures produits (milliers).
476,238	164,850	—	56,705	335,610	Capacité en K.V.A.
48.6	48.3	—	31.9	39.4	Proportion de la production à la capacité (p.c.).
4,230	4,228	—	2,192	3,443	Moyenne des K.W. heures par K.V.A.
187	5,402	9,691	11,332	1,597	K.W. heures produits (milliers).
186	4,500	10,611	7,640	1,648	Capacité en K.V.A.
11.5	13.7	10.4	16.9	11.1	Proportion de la production à la capacité (p.c.).
1,005	1,200	913	1,483	969	Moyenne des K.W. heures par K.V.A.
Usines municipales					
Total					
4,438,147	405,797	109,764	69,725	19,226	K.W. heures produits (milliers).
843,454	106,351	55,126	43,316	10,266	Capacité en K.V.A.
60.3	43.6	22.9	19.9	25.0	Proportion de la production à la capacité (p.c.).
5,262	3,816	1,991	1,610	1,873	Moyenne des K.W. heures par K.V.A.
Stations hydrauliques					
4,437,677	402,648	—	874	18,393	K.W. heures produits (milliers).
843,144	103,725	—	850	9,763	Capacité en K.V.A.
60.3	44.3	—	11.7	25.4	Proportion de la production à la capacité (p.c.).
5,263	3,882	—	1,028	1,884	Moyenne des K.W. heures par K.V.A.
Stations à combustible					
470	3,149	109,764	68,851	833	K.W. heures produits (milliers).
310	2,626	55,126	42,466	503	Capacité en K.V.A.
17.3	13.7	22.9	20.1	18.9	Proportion de la production à la capacité (p.c.).
1,516	1,199	1,991	1,621	1,656	Moyenne des K.W. heures par K.V.A.
Stations totales hydrauliques					
6,452,178	1,099,641	—	125,168	1,173,783	K.W. heures produits (milliers).
1,319,382	268,575	—	57,555	345,373	Capacité en K.V.A.
56.1	46.7	—	31.5	39.1	Proportion de la production à la capacité (p.c.).
4,890	4,094	—	2,175	3,399	Moyenne des K.W. heures par K.V.A.
6,443,132	1,099,448	—	106,011	1,112,607	K.W. heures
9,046	193	—	19,157	61,176	K.W. heures
Total de stations à combustible					
657	8,551	119,455	80,183	2,430	K.W. heures produits (milliers).
496	7,126	65,737	50,106	2,151	Capacité en K.V.A.
15.1	13.7	20.9	19.6	12.9	Proportion de la production à la capacité (p.c.).
1,325	1,200	1,817	1,600	1,130	Moyenne des K.W. heures par K.V.A.

CENSUS OF INDUSTRY

Table 15—Fuel—1929

Province	Bituminous Coal—	
	Canadian Canadien	
	Quantity — Quantité	Value — Valeur
	Ton — Tonnes	\$
Canada	155,911	827,617
Prince Edward Island.....	—	—
Nova Scotia.....	46,160	203,802
New Brunswick.....	32,511	176,897
Quebec.....	—	—
Ontario.....	1,166	7,074
Manitoba.....	4,458	24,846
Saskatchewan.....	45,983	300,620
Alberta.....	3,708	14,754
British Columbia and Yukon.....	21,925	99,624

Province	Kerosene Kérosène	
	Quantity — Quantité	Value — Valeur
	Gal. — Gal.	\$
Canada	129,688	31,033
Prince Edward Island.....	9,000	1,800
Nova Scotia.....	20	6
New Brunswick.....	—	—
Quebec.....	—	—
Ontario.....	540	135
Manitoba.....	5,452	1,489
Saskatchewan.....	93,548	21,682
Alberta.....	18,114	5,103
British Columbia and Yukon.....	3,014	820

Tableau 15—Combustible, 1929

Charbon bitumineux		Anthracite Coal — Charbon anthracite		Lignite Coal—Lignite		Gasoline — Gazoline	
Imported — Importé				Canadian — Canadien			
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur
Ton — Tonnes	\$	Ton — Tonnes	\$	Ton — Tonnes	\$	Gal. — Gal.	\$
42,358	228,712	1,671	13,317	336,238	1,000,293	109,405	32,288
4,133	27,034	—	—	—	—	375	112
—	—	—	—	—	—	30	10
—	—	—	—	—	—	—	—
2,413	16,970	1,521	10,767	—	—	900	207
34,797	174,682	—	—	—	—	1,750	525
815	6,432	—	—	40,557	121,625	8,648	2,461
200	3,594	150	2,550	134,323	555,461	68,937	19,751
—	—	—	—	161,358	323,207	27,829	9,091
—	—	—	—	—	—	936	131
Fuel Oil — Huile combustible		Wood — Bois		Natural Gas — Gaz naturel		Other Fuel — Autre combustible	Total
Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Quantity — Quantité	Value — Valeur	Value — Valeur	Value — Valeur
Gal. — Gal.	\$	Cord — Corde	\$	1,000 cu. ft. — 1,000 pd. cu.	\$	\$	\$
12,625,036	764,128	12,423	51,102	672,756	58,378	9,025	3,015,895
62,166	7,460	80	400	—	—	—	36,806
84,501	12,046	40	109	—	—	—	215,973
109,910	14,808	15	60	—	—	—	191,765
26,300	3,161	300	1,500	—	—	4,925	37,530
84,332	7,150	2,979	10,416	—	—	—	199,982
292,423	45,312	3,301	18,460	—	—	—	220,625
1,415,795	212,398	2,777	11,933	—	—	3,780	1,131,769
282,923	36,443	428	749	672,756	58,378	320	448,045
10,266,686	425,350	2,503	7,475	—	—	—	533,400

APPENDIX A

MONTHLY OUTPUT OF CENTRAL ELECTRIC STATIONS

The data in the following tables are supplied monthly by the large stations only, but as these stations produce over 97 per cent of the output of all central electric stations in Canada, the fluctuations and trends may be considered as representing the industry.

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA
PRODUCTION DES USINES ÉLECTRIQUES CENTRALES EN CANADA

(A) MONTHLY OUTPUT—PRODUCTION MENSUELLE

(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

Month	Totals for Canada Totaux pour le Canada			Generated by Water-Power Générés par pouvoir hydraulique					Generated by Fuel Générés par combustible		Total Exports — Total, exportations	Mois	
	Water — Eau	Fuel — Combustible	Total	Maritime Provinces — Provinces maritimes	Quebec — Québec	Ontario	Prairie Provinces — Provinces des prairies	British Columbia — Colombie Britannique	Prairie Provinces — Provinces des prairies	Other Provinces — Autres provinces			
1928													1928
Jan.....	1,306,298	20,245	1,326,543	10,908	613,339	492,035	96,676	93,340	15,315	4,930	124,023	Janv.	
Feb.....	1,264,178	17,852	1,282,030	10,342	604,439	469,216	92,359	87,822	13,613	4,239	122,906	Fév.	
March....	1,324,612	17,939	1,342,551	10,785	621,465	499,059	100,638	92,665	14,113	3,826	135,961	Mars	
April.....	1,254,791	17,147	1,271,938	9,817	601,969	464,846	92,658	85,501	13,750	3,397	122,154	Avril.	
May.....	1,264,792	16,019	1,280,811	9,643	600,568	487,733	85,447	81,401	12,257	3,762	134,830	Mai.	
June.....	1,228,235	14,089	1,242,324	9,452	596,804	462,239	83,252	76,488	11,251	2,838	127,409	Juin.	
July.....	1,233,410	14,955	1,248,365	9,266	614,556	448,102	82,121	79,365	11,699	3,256	130,124	Juillet.	
Aug.....	1,297,731	15,825	1,313,556	8,212	637,862	478,979	86,367	86,311	12,631	3,194	145,678	Août.	
Sept.....	1,261,501	18,931	1,280,432	6,455	608,132	472,256	90,594	84,064	12,911	6,020	129,501	Sept.	
Oct.....	1,439,477	20,971	1,460,448	8,571	724,509	503,032	108,044	95,321	15,922	5,049	154,627	Oct.	
Nov.....	1,416,958	24,562	1,441,520	10,834	737,298	498,711	75,414	94,701	19,207	5,355	137,810	Nov.	
Dec.....	1,413,388	27,541	1,440,929	12,401	714,213	505,131	79,335	102,308	21,378	6,163	122,734	Déc.	
Total...	15,705,371	226,076	15,931,447	116,686	7,675,154	5,781,339	1,072,905	1,059,287	174,047	52,029	1,587,757	Total.	
1929													1929
Jan.....	1,478,953	28,920	1,507,873	14,242	728,703	516,574	117,592	101,842	21,835	7,085	114,267	Janv.	
Feb.....	1,315,207	31,282	1,346,489	14,341	645,934	470,824	103,364	80,744	18,546	12,736	110,645	Fév.	
March....	1,440,734	29,786	1,470,520	15,995	714,729	514,451	105,704	89,855	18,206	11,580	126,648	Mars.	
April.....	1,378,557	30,524	1,409,081	15,677	685,180	493,997	97,455	86,250	19,527	10,997	110,692	Avril.	
May.....	1,431,806	24,881	1,456,687	15,424	709,909	517,402	101,418	87,653	16,414	8,467	112,302	Mai.	
June.....	1,360,875	17,249	1,378,124	14,543	677,920	492,233	87,191	88,988	13,626	3,623	119,394	Juin.	
July.....	1,392,857	17,852	1,410,709	14,813	696,621	506,577	86,941	87,905	14,211	3,641	128,601	Juillet.	
Aug.....	1,425,572	19,363	1,444,935	15,109	713,519	515,964	88,049	92,931	14,897	4,466	133,159	Août.	
Sept.....	1,455,053	22,064	1,477,117	14,155	746,647	506,352	95,257	92,642	15,044	7,020	136,301	Sept.	
Oct.....	1,559,042	35,241	1,594,283	16,597	813,794	529,568	105,049	94,034	19,654	15,587	126,360	Oct.	
Nov.....	1,559,178	35,870	1,595,048	16,989	797,314	542,228	111,318	91,329	18,138	17,732	124,029	Nov.	
Dec.....	1,496,600	38,431	1,535,031	17,315	746,934	532,818	117,079	82,954	19,958	18,473	102,004	Déc.	
Total...	17,291,434	331,463	17,622,897	185,200	8,677,204	6,138,488	1,216,415	1,077,127	210,056	121,407	1,141,402	Total.	
1930													1930
Jan.....	1,513,719	41,092	1,554,811	29,448	745,711	549,119	104,698	84,743	23,063	18,029	112,625	Janv.	
Feb.....	1,371,215	26,880	1,398,095	28,705	686,957	489,210	82,397	83,946	18,702	8,178	117,176	Fév.	
March....	1,451,040	24,425	1,515,465	34,469	741,411	528,044	89,826	96,930	18,222	6,203	126,894	Mars.	
April.....	1,480,953	21,385	1,502,338	42,968	744,861	509,615	92,601	90,908	16,437	4,948	117,504	Avril.	
May.....	1,523,521	21,106	1,544,627	44,139	761,327	524,679	100,116	93,260	16,466	4,640	129,138	Mai.	
June.....	1,414,236	20,375	1,434,611	42,632	709,245	485,791	87,683	88,885	15,801	4,574	136,016	Juin.	
July.....	1,404,009	21,681	1,425,690	40,667	722,335	460,611	89,169	91,227	16,522	5,159	131,817	Juillet.	
Aug.....	1,391,054	20,806	1,411,860	41,788	710,842	457,424	84,925	96,075	14,898	5,908	142,571	Août.	
Sept.....	1,419,051	23,910	1,442,961	38,662	704,123	485,151	92,060	99,055	14,882	9,028	153,657	Sept.	
Oct.....	1,549,846	24,714	1,574,560	39,480	781,996	521,991	95,005	111,374	16,874	7,840	161,323	Oct.	
Nov.....	1,488,175	27,228	1,515,403	41,264	764,490	480,131	92,292	109,998	19,506	7,722	141,587	Nov.	
Dec.....	1,513,152	29,156	1,542,308	44,295	764,612	480,442	111,443	112,360	19,748	9,408	149,295	Déc.	
Total...	17,559,971	302,758	17,862,729	168,517	8,837,910	5,972,568	1,122,215	1,158,761	211,121	91,637	1,619,603	Total.	

APPENDICE A

PRODUCTION MENSUELLE DES USINES CENTRALES ELECTRIQUES

Les données contenues dans les tableaux qui suivent sont fournies tous les mois par les grandes stations seulement, mais comme ces stations produisent plus de 97 p.c. de toute la production de toutes les usines centrales électriques du Canada, les fluctuations et les tendances peuvent être considérées comme représentant l'industrie.

OUTPUT OF CENTRAL ELECTRIC STATIONS IN CANADA—Concluded
PRODUCTION DES USINES ÉLECTRIQUES CENTRALES EN CANADA—Fin

(B) AVERAGE DAILY OUTPUT—MOYENNE DE PRODUCTION QUOTIDIENNE
(Thousands of Kilowatt Hours—En milliers de kilowatt-heures)

(Thousands of Kilowatt Hours)													
Month	Totals for Canada Totaux pour le Canada			Generated by Water-Power Générés par pouvoir hydraulique					Generated by Fuel Générés par combustible		Total Exports Total, ex- portations	Mois	
	Water Eau	Fuel Com- bustible	Total	Maritime Pro- vinces Pro- vinces mar- times	Quebec Québec	Ontario	Prairie Pro- vinces Pro- vinces des prairies	British Colum- bia Colom- bie Britan- nique	Prairie Pro- vinces Pro- vinces des prairies	Other Pro- vinces Autres pro- vinces			
1928													
Jan.....	42,138	653	42,791	352	19,785	15,872	3,118	3,011	494	159	4,001	Janv.	
Feb.....	43,592	615	44,207	357	20,843	16,179	3,185	3,028	469	146	4,238	Fév.	
March.....	42,729	579	43,308	348	20,047	16,099	3,246	2,989	455	124	4,386	Mars.	
April.....	41,826	571	42,397	327	20,066	15,494	3,089	2,850	458	113	4,072	Avril.	
May.....	40,799	517	41,316	311	19,373	15,733	2,756	2,626	396	120	4,349	Mai.	
June.....	40,941	470	41,411	315	19,893	15,409	2,775	2,549	375	95	4,247	Juin.	
July.....	39,787	482	40,269	299	19,824	14,455	2,649	2,560	377	105	4,198	Juillet.	
Aug.....	41,862	510	42,372	265	20,576	15,450	2,786	2,785	407	103	4,699	Août.	
Sept.....	42,050	631	42,681	215	20,271	15,742	3,020	2,802	431	200	4,317	Sept.	
Oct.....	46,435	676	47,111	276	23,371	16,228	3,485	3,075	514	162	4,985	Oct.	
Nov.....	47,232	819	48,051	361	24,576	16,624	2,514	3,157	640	179	4,575	Nov.	
Dec.....	45,593	888	46,481	400	23,040	16,294	2,559	3,300	695	199	3,959	Déc.	
Average..	42,911	618	43,529	319	20,970	15,796	2,932	2,894	476	142	4,338	Moyenne.	
1929													
Jan.....	47,708	933	48,641	459	23,507	16,664	3,793	3,285	704	229	3,689	Janv.	
Feb.....	46,971	1,117	48,088	512	23,069	16,815	3,691	2,884	662	455	3,952	Fév.	
March.....	46,475	961	47,436	516	23,056	16,595	3,410	2,898	587	574	4,085	Mars.	
April.....	45,952	1,017	46,969	523	22,839	16,467	3,248	2,875	651	366	3,690	Avril.	
May.....	46,187	803	46,990	498	22,900	16,690	3,272	2,827	530	273	3,628	Mai.	
June.....	45,362	575	45,937	485	22,597	16,408	2,906	2,966	454	121	3,980	Juin.	
July.....	44,931	575	45,506	478	22,472	16,341	2,804	2,836	458	117	4,148	Juillet.	
Aug.....	45,986	624	46,610	487	23,017	16,644	2,840	2,998	480	144	4,295	Août.	
Sept.....	48,502	735	49,237	472	24,888	16,879	3,175	3,088	501	234	4,543	Sept.	
Oct.....	50,291	1,137	51,428	535	26,251	17,083	3,389	3,033	634	503	4,076	Oct.	
Nov.....	51,973	1,195	53,168	566	26,577	18,074	3,711	3,045	604	591	4,134	Nov.	
Dec.....	48,278	1,239	49,517	558	24,095	17,172	3,777	2,676	643	596	3,290	Déc.	
Average..	47,382	908	48,290	507	23,773	16,818	3,333	2,951	575	333	3,957	Moyenne.	
1930													
Jan.....	48,829	1,326	50,155	950	24,055	17,713	3,377	2,734	744	582	3,633	Janv.	
Feb.....	48,972	960	49,932	1,025	24,534	17,472	2,943	2,998	668	292	4,185	Fév.	
March.....	48,098	788	48,886	1,112	23,916	17,045	2,898	3,127	588	200	4,093	Mars.	
April.....	49,365	713	50,078	1,432	24,829	16,987	3,087	3,030	548	165	3,917	Avril.	
May.....	49,146	681	49,827	1,424	24,559	16,925	3,230	3,008	531	150	4,166	Mai.	
June.....	47,141	679	47,820	1,422	23,642	16,193	2,922	2,962	527	152	4,534	Juin.	
July.....	45,291	699	45,990	1,312	23,301	14,858	2,877	2,943	533	166	4,252	Juillet.	
Aug.....	44,873	671	45,544	1,348	22,930	14,756	2,740	3,099	481	190	4,599	Août.	
Sept.....	47,301	797	48,098	1,288	23,470	16,172	3,069	3,302	496	301	5,122	Sept.	
Oct.....	49,995	797	50,792	1,273	25,226	16,838	3,065	3,593	544	253	5,204	Oct.	
Nov.....	49,606	908	50,514	1,375	25,483	16,004	3,077	3,667	650	258	4,720	Nov.	
Dec.....	48,811	940	49,751	1,429	24,665	15,498	3,595	3,624	637	303	4,816	Déc.	
Average..	48,110	829	48,939	1,284	24,213	16,363	3,075	3,175	578	251	4,437	Moyenne.	

NOTE ON CANADIAN WATER POWERS

BY

The Dominion Water Power and Hydrometric Bureau

While the use of the power to be derived from rivers in their flow towards the sea antedates history, the greatest impetus to hydraulic development came with the introduction of the electric generator and the electric transformer some forty years ago. Since that time water power has become a vital factor in Canadian industrial development. The ample supplies of water power distributed from coast to coast have enabled Canada to develop into a manufacturing country of the first importance. Low cost power provided by hydraulic development has attracted from abroad major or branch industries whose products, have markedly augmented Canada's export trade, while, concurrent with this industrial development, widespread distribution of hydro-electricity for domestic use in urban, suburban and rural communities has done much to raise the standard of living of a large proportion of the population.

Canada's total water power installation has grown from 71,515 h.p. in 1890 to 6,125,012 h.p. at the beginning of 1931, while construction under way will add a further half million horse power by the end of the year. Over 85 per cent of the present installation is installed for general distribution by central electric station organizations, while the report herewith of the Canadian central electric station census for 1929 shows that 98 per cent of the electricity distributed was produced by water power.

The administration of the water resources of the Dominion is in accordance with the terms of the British North America Act of 1867, a divided Federal and Provincial responsibility.

The federal authority extends over the water-powers of the Yukon and Northwest Territories administrative control being exercised by the Dominion Water Power and Hydrometric Bureau, Department of the Interior, which also carries on investigatory work throughout the remainder of Canada in close co-operation with the various provincial authorities charged with water-power administration in their respective provinces. The federal Department of Railways and Canals is responsible for water and storage projects incidental to canalization schemes, and the Department of Public Works, being responsible for the protection of navigation throughout Canada, is directly concerned with power and storage projects on all navigable bodies of water.

As the lands in the provinces of Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia were the property of the respective provinces before their entry into Confederation administrative control of water-powers situated within these provinces became vested in the Legislative Assemblies, active administration at the present time being carried on in Nova Scotia, by the Commission of Public Works and Mines; in New Brunswick, by the Department of Lands and Mines; in Quebec, by the Department of Lands and Forests; in Ontario by the Department of Lands and Forests; and in British Columbia by the Department of Lands. With the granting of almost the whole of Prince Edward Island to private owners in 1767, all the water-power sites passed out of the Crown's possession. The government of the province has, however, taken full advantage of the co-operative water resources survey, already referred to, for securing and publishing information as to the extent and availability of the water resources of the province.

Crown lands generally within the provinces of Manitoba, Saskatchewan, Alberta and the Railway Belt and Peace River block of British Columbia, for which title had not already been given, were transferred to the control of the Legislative Assemblies of the respective provinces by the passing in 1930 of The Manitoba Natural Resources Act, The Saskatchewan Natural Resources Act, The Alberta Natural Resources Act and The Railway Belt and Peace River Block Act; active administration of water-powers being carried on in Manitoba by the Department of Mines and Natural Resources; in Saskatchewan, by the Department of Natural Resources; in Alberta, by the Department of Natural Resources, and in the Railway Belt of British Columbia by the Department of Lands. The latter department, by agreement between the Dominion and the Province, had administered the federally owned water-powers of the Railway Belt from 1912 to the date of their transfer to the province.

In Nova Scotia, New Brunswick, Ontario, Manitoba and Saskatchewan commissions under the Government have been formed to develop or purchase power and to transmit and distribute electric energy. The greatest development in this field has been in Ontario through the Hydro-Electric Power Commission formed in 1905. In general, the Commission acts as administrator for municipalities undertaking to co-operatively purchase or develop electric energy; it also acts as trustee for the Provincial Government, the financing of the enterprises being backed by the Government. The Manitoba and Nova Scotia Power Commission, formed in 1919, the New Brunswick Electric Power Commission formed in 1920 and the Saskatchewan Power Commission formed in 1929 have much the same functions as the Hydro-Electric Power Commission of Ontario. In the province of Quebec the Quebec Streams Commission is actively engaged in the examination of rivers and power sites and the construction of storage basins for water-power purposes.

During 1930 new installation placed in operation reached a total of 397,850 h.p. while over three million horse-power additional is under construction or in active prospect.

The province of Ontario led during the year with a total new installation of 136,000 h.p. brought into operation. The addition of a tenth unit, 58,000 h.p. completed the installation of the Queenston Station of the Hydro-Electric Power Commission of Ontario. This station, the largest in Canada, has an installation of 560,000 h.p. The Commission also completed its second development on the Nipigon river at Alexander Landing, where 54,000 h.p. is installed and has underway a joint development, with the Ottawa Valley Power Company, of Chats Falls, on the Ottawa River, an interprovincial site. In the joint station situated astride the Ontario-Quebec boundary 224,000 h.p. of an ultimate 280,000 h.p. is being installed. Delivery of power is scheduled for October 1931 and the total output is to be transmitted to Toronto for distribution by the Commission.

Additional power for the Northern Ontario-Western Quebec mining fields is provided by the completion by the Canada Northern Power Corporation of a 13,000 h.p. development at the Upper Notch on the Montreal river. Similarly additional power for the Sudbury district will be supplied from a 330,000 h.p. development under construction by the Ontario Power Service Corporation Limited at the Canyon on the lower Abitibi. A second unit of 11,000 h.p. was added by the Algoma District Power Company to its station at High Falls, Michipicoten river.

In the province of Quebec five organizations installed a total of 122,700 h.p. The MacLaren-Quebec Power Company installed the initial 90,000 h.p. of its 120,000 h.p. development at High Falls on the Lièvre river and completed

preliminary arrangements for the construction of a second development of 130,000 h.p. near the junction of the same stream with the Ottawa river. The Shawinigan Water and Power Company added a 25,000 h.p. unit to its Grand Mere plant, is adding a 30,000 h.p. unit to its La Gabelle plant and is constructing a new plant at Rapide Blanc further up the St. Maurice with an initial installation of 160,000 h.p. A number of smaller installations were made during the year and rapid progress was also made on the outstanding developments of the Beauharnois Power Corporation on the St. Lawrence river, the Alcoa Power Company on the Saguenay river and the joint development of the Ottawa Valley Power Company and the Hydro-Electric Power Commission of Ontario on the Ottawa river.

In British Columbia the British Columbia Power Corporation added a new unit, 18,000 h.p. to its Jordan river station and installed the first of three units of 47,000 h.p. in its Ruskin plant on the Stave river. The Northern British Columbia Power Company installed the first unit, 6,000 h.p. in its 32,000 h.p. plant on Falls river.

The first hydro-electric plant in the Province of Saskatchewan came into operation during 1930 when the Churchill River Power Company commenced the supply of power to the Flin Flon Mines and Smelter and the mines at Cold Lake. The initial installation is 42,000 h.p. and the plant is designed for an addition of 42,000 h.p.

In the Maritime Provinces the fourth unit of 20,000 h.p. was added to the plant of the St. John River Power Company at Grand Falls, New Brunswick while the Avon River Power Company completed a new development of 4,500 h.p. on Black River, Nova Scotia.

The Dominion Water Power and Hydrometric Bureau, in co-operation with the various responsible provincial bodies, has effected a co-ordinated system of water-power analysis for the purposes of presenting the water-power resources of the Dominion upon a reliable and uniform basis. As a result of a careful re-analysis and computation by the Bureau, the total available and developed water-power resources of Canada are presented as follows:—

POTENTIAL AND DEVELOPED WATER POWER IN CANADA, JANUARY, 1931

Province	Available 24-hour power at 80% Efficiency		Turbine Installation
	At Ordinary Minimum Flow	At Ordinary Six Months Flow	
1	2	3	4
	H.P.	H.P.	H.P.
Prince Edward Island.....	3,000	5,300	2,439
Nova Scotia.....	20,800	128,300	114,224
New Brunswick.....	68,600	169,100	113,681
Quebec.....	8,459,000	13,064,000	2,718,130
Ontario.....	5,330,000	6,940,000	2,088,055
Manitoba.....	3,309,000	5,344,500	311,925
Saskatchewan.....	542,000	1,082,000	42,035
Alberta.....	390,000	1,049,500	70,532
British Columbia.....	1,931,000	5,103,500	630,792
Yukon & Northwest Territories.....	294,000	731,000	13,199
Canada.....	20,347,400	33,617,200	6,125,012

The figures in columns 2 and 3 are based only upon rapids, falls and power sites of which the actual drop or head possible of concentration is definitely known or reasonably well established. Many water-powers of greater or less

capacity from coast to coast are not as yet recorded. The ratio of actual plant installation to theoretical power available indicates that the water-power resources of the Dominion as at present recorded, will permit of a turbine installation of about 43,000,000 horse-power.

The above tabulated figures may be considered as representing the minimum water-power possibilities of the Dominion. As an example, the detailed analyses which have been made of the water-power resources of New Brunswick and Nova Scotia, indicate that by taking full advantage of reservoir facilities these two provinces possess, at the least, 200,000 and 300,000 commercial horse-power within their respective borders.

With a water-power development of 617 horse-power per 1,000 population, Canada stands well to the fore in respect to availability and utilization of hydro power resources. The enormous water-power reserves still untouched form a substantial foundation for the progressive exploitation and development of other natural resources, especially if properly co-ordinated with the development and utilization of the well-known fuel resources of the Dominion.

Ottawa, May 13th, 1931.

CANADA
BUREAU FÉDÉRAL DE LA STATISTIQUE
SECTION DES TRANSPORTS ET UTILITÉS PUBLIQUES

RECENSEMENT INDUSTRIEL, 1929

USINES ÉLECTRIQUES CENTRALES AU CANADA

(Préparé en collaboration avec le Service des forces Hydrauliques, et le Service Hydrométrique du ministère de l'Intérieur, et avec le concours de la Commission Hydroélectrique d'Ontario, la Commission des Eaux Courantes de Québec, la Commission de l'Énergie Électrique du Nouveau-Brunswick, la Commission de la Force Motrice de la Nouvelle-Écosse et la Commission de la Force Motrice du Manitoba)

Publié par ordre de l'Hon. H. H. Stevens, M.P.
Ministre du Commerce



OTTAWA
F. A. ACLAND
IMPRIMEUR DE SA TRÈS EXCELLENTE MAJESTÉ LE ROI
1931

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PRÉFACE

Les données sur la génération et la distribution de l'électricité au Canada sont colligées et compilées par le Bureau, en vertu de la Loi de la Statistique, 8-9, George V, chap. 43.

Le personnel du Service des Forces Hydrauliques et du Bureau hydro-métrique du ministère de l'Intérieur a bien voulu vérifier les réponses au questionnaire et mettre à point le présent rapport conformément à une entente convenue lors de l'institution de notre recensement annuel des industries. Le Bureau doit aussi ses remerciements au Service d'Inspection de l'Electricité et du Gaz, du ministère du Commerce, ainsi qu'aux différentes commissions provinciales d'énergie électrique.

R. H. COATS,
Statisticien du Dominion.

BUREAU FEDERAL DE LA STATISTIQUE,
OTTAWA, 1er juin 1931.

BUREAU FÉDÉRAL DE LA STATISTIQUE
SECTION DES TRANSPORTS ET UTILITÉS PUBLIQUES

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INDUSTRIE DES USINES ELECTRIQUES CENTRALES, 1929

Le recensement de l'industrie des usines électriques centrales au Canada se fait chaque année sous l'empire de la Loi de la Statistique de 1918 (8-9, George V, chap. 43), au moyen de questionnaires ou cédulas adressés à toutes les usines électriques centrales. Nuls renseignements ne sont obtenus sur place par des fonctionnaires du bureau, mais tous les questionnaires retournés sont examinés et révisés par des préposés du Bureau; s'il manque quelques détails d'information on les obtient par correspondance.

Pour les fins de ce recensement, les usines électriques centrales sont définies comme compagnies, municipalités ou individus vendant ou distribuant de l'énergie électrique, soit produite par elles ou achetée pour la revente. Ces stations sont divisées en deux catégories selon les titres de propriété, savoir, (a) commerciales, celles qui sont exploitées par des compagnies ou des individus, et (b) municipales, celles qui sont exploitées par des gouvernements municipaux, provinciaux ou fédéral. Elles sont encore réparties, par rapport à leurs fonctions, en (a) génératrices, celles qui produisent l'énergie qu'elles vendent et (b) non-génératrices, celles qui achètent toute l'énergie qu'elles vendent. Dans le premier cas, il y a plusieurs unines qui achètent l'énergie en vue de supplémer leur rendement. Dans la seconde catégorie, il y a 14 stations qui détiennent tout l'équipement générateur classé comme outillage d'usine auxiliaire; de ce nombre, neuf achètent toute leur énergie électrique et les cinq autres ne produisent que 753,000 kilowatt-heures. Ceci explique l'étrange item qui se trouve au tableau 14 montrant le rendement d'usines non-génératrices.

Ces statistiques comprennent encore les chiffres concernant quelques usines premièrement engagées dans d'autres industries, telles que les mines, la fabrication de la pulpe et du papier, etc., qui vendent l'énergie de surplus. Pour cette catégorie d'usines, la statistique concernant les usines centrales électriques a été isolée aussi exactement que possible.

L'explication de ce qui est compris dans chacun des tableaux, comme ce que comprend chaque item, sera donnée plus loin en expliquant les détails des tableaux 3 à 15 inclusivement.

A l'exception de 1921, il y eut chaque année une augmentation dans le rendement des usines électriques centrales, ce gain variant de 7 pour cent en 1920 à 20 pour cent en 1922-23, 1926 et 1927. En 1929 le rendement total est de 17,962,515,000 kilowatt-heures, soit 10 p.c. de plus qu'en 1928 et plus que le double du rendement de 1923. Si le taux d'augmentation est un peu moins élevé que les trois années précédentes, c'est sans doute à cause de la dépression générale des affaires. Le tableau ci-dessous donne le rendement de chaque année de 1919 à 1929, selon les usines commerciales et municipales. La forte augmentation du rendement des usines municipales en 1923 est due en grande partie au transfert des établissements commerciaux aux municipalités.

RENDEMENT DES USINES CENTRALES ÉLECTRIQUES

(En milliers de kilowatt-heures)

Année	Augmentation sur l'année précédente	Total	Usines commerciales	Usines municipales
p.c.				
1929.....	10	17,962,515	12,774,107	5,188,408
1928.....	12	16,337,804	11,460,974	4,876,830
1927.....	20	14,549,099	9,944,422	4,604,677
1926.....	20	12,093,445	7,797,480	4,295,965
1925.....	9	10,110,459	6,527,103	3,583,356
1924.....	15	9,315,277	6,024,312	3,290,965
1923.....	20	8,099,192	5,074,120	3,025,072
1922.....	20	6,740,750	5,119,676	1,621,074
1921.....	-5	5,614,132	4,316,272	1,297,860
1920.....	7	5,894,867	4,456,428	1,438,439
1919.....		5,497,204	4,191,223	1,305,981

Ce n'est que sur permis du Service d'Inspection de Gaz et d'Electricité du ministère du Commerce que l'électricité est exportée du Canada; ce même service a également juridiction sur les droits d'exportation d'énergie électrique imposés depuis le 1er avril 1925. Au cours de l'exercice clos le 31 mars 1930, ces droits d'exportation s'élevaient à \$318,792, comparativement à \$351,108 pour l'exercice précédent. Le tarif est de trois centièmes d'un cent par k.h. sur toute l'énergie électrique exportée, sauf sur certaines exportations. Le tableau ci-dessous donne les quantités d'énergie électrique produite pour exportation par chaque compagnie et la quantité totale générée par chacune pendant l'année civile 1929, la production montrée étant uniquement celle des usines qui font de l'exportation, la différence entre la quantité exportée et la quantité produite pour l'exportation étant la perte sur les lignes de transmission. Les chiffres compilés dans ce tableau proviennent des rapports annuels du directeur des Services d'Inspection du Gaz et de l'Electricité.

KILOWATT-HEURES GENERES PAR LES USINES EXPORTATRICES, PRODUITS POUR L'EXPORTATION ET EXPORTÉS AUX ETATS-UNIS EN 1929

Compagnie	Rendement total	Produits pour l'exportation	Exportés
	Kilowatt-heures	Kilowatt-heures	Kilowatt-heures
Hydro Electric Power Commission of Ontario.....	3,594,589,400	394,697,800	390,199,400
Hydro Electric Power Commission of Ontario (Surplus).....	305,029,700	305,029,700	297,106,592
Cedar Rapids Manufacturing & Power Company, Ltd.....	952,495,867	453,183,618	431,481,998
Canadian Niagara Power Co., Ltd.....	632,261,900	300,539,120	289,264,917
Canadian Niagara Power Co., Ltd. (Surplus).....	89,000	89,000	89,000
Western Power Company of Canada, Ltd.....	256,999,800	375,684	359,850
Ontario and Minnesota Power Company, Ltd.....	20,408,900	15,413,600	15,413,600
Maine & New Brunswick Electrical Power Co.....	13,729,100	10,910,927	10,353,937
British Columbia Electric Railway Co.....	161,075,520	812,078	706,507
Northport Power & Light Co.....	265,552,449	377,972	377,972
Maritime Electric Co., Ltd.....	2,724,274	919,799	919,799
Southern Canada Power Co.....	13,979,200	418,682	385,214
Northern British Columbia Power Company.....	245,568	39,729	26,780
The International Railway Co.....	1,835,145	516,744	516,744
Fraser Companies, Ltd.....	7,866,500	7,321,500	7,321,500
Total.....	6,228,882,323	1,490,645,953	1,444,523,810

TABLEAU 1.—RÉSUMÉ COMPARATIF, 1921-1929

Les données les plus importantes concernant cette industrie sont présentées dans le tableau I pour les neuf années 1921-1929, afin de faciliter des comparaisons et faire voir les fluctuations et la croissance. Il s'est produit une augmentation constante sous le rapport du capital engagé, recettes, dépenses, milage de lignes de transmission, nombre de consommateurs, rendement et capacité,

mais le nombre d'usines à combustible accuse une diminution en 1924, 1928 et 1929, en 1928 cette diminution étant de 2 établissements. La plupart des usines à combustible qui ont cessé leurs opérations n'étaient cependant que de petits établissements qui, dans certains cas, recevaient leur énergie pour le service au moyen de lignes de transmission et provenant d'usines plus considérables. Dans la Saskatchewan en particulier il existe une foule de petites usines utilisant des moteurs à combustion interne, qui n'ont pas le caractère permanent des grands établissements hydrauliques ou à vapeur. Il s'est produit un changement continu de propriétaires d'usines entre les organisations commerciales et les municipalités, ce qui explique plusieurs augmentations et diminutions considérables par rapport à ces subdivisions. Cette situation se remarque surtout en 1923, alors que le capital nanti dans les usines commerciales accuse une diminution de \$19,492,682. L'augmentation du capital pour les neuf années est de 117.8 pour cent et de 110.9 pour cent pour les recettes, mais l'augmentation du rendement s'élève à 220 pour cent. Cependant, le rendement en 1921 était moins considérable qu'en 1920, dû sans doute à la dépression des affaires. Les salaires et gages n'englobent que 20 à 26 pour cent des recettes et, par suite de la prépondérance des usines hydrauliques, le compte du combustible n'est que de 3 à 4.5 pour cent des recettes. Toutefois, l'intérêt est très élevé à cause du fait que le capital engagé est 8.6 fois plus élevé que les recettes pendant toute cette période. Les moteurs à vapeur ont diminué en nombre et en capacité, étant supplantés par les turbines à vapeur, moteurs à combustion interne, roues hydrauliques et turbines. Durant ces neuf années les roues et turbines hydrauliques ont augmenté de 26 pour cent en nombre, mais de 158 pour cent en capacité dont la moyenne s'est élevée de 3,024 h.p. en 1921 à 6,193 h.p. en 1929. Le nombre de dynamos c.d. accuse de légères augmentations en 1925-1926 et en 1927, mais des diminutions les autres années, donnant une capacité de 41 p.c. de moins en 1929 qu'en 1921, bien qu'ayant augmenté en nombre de 42.4 pour cent. Le tableau donne encore le chiffre de nos exportations aux Etats-Unis ainsi que nos importations de ce même pays. Le chiffre de nos importations ne s'élève qu'à peu de choses et, dans la plupart des cas, il ne s'agit que de petites municipalités près des frontières où l'usine se trouve en territoire américain. Les exportations sont présentées, toutefois, en blocs considérables, notamment des usines des Chutes Niagara et des Rapides des Cèdres, sur le St-Laurent.

De la production totale de 1929, 8.2 pour cent ou 1,490,645.953 kilowatt-heures étaient destinés à l'exportation, le volume livré à la frontière se chiffant à 1,444,523,810 kilowatt-heures. Les usines des Chutes Niagara ont exporté 976,659,909 kilowatt-heures et, de cette quantité, il y avait 297,195,592 kilowatt-heures provenant d'un surplus mis en disponibilité à des périodes de moindre activité. Etant donné qu'il est impossible d'emmagasiner l'eau aux Chutes Niagara, ce surplus d'énergie aurait été perdu si on n'avait pu l'exporter.

L'industrie est redevable à celle de la pulpe et du papier de sa croissance rapide au cours des derniers dix ans. En 1929, les moteurs des pulperies et papeteries fonctionnant par l'électricité fournie par les usines électriques centrales avaient une capacité de 944,272 h.p.; ceci représentait 36 pour cent du total de tous les moteurs tirant leur énergie des stations électriques centrales. De plus, par suite d'une charge constante et d'opérations continuelles, le volume d'électricité utilisé par ces moteurs de pulperies et papeteries était assurément plus élevé par h.p. que la moyenne pour toutes les industries et, en plus de forts volumes d'énergie pour le fonctionnement des machines, l'industrie utilise de plus fortes quantités d'énergie hydro-électrique dans les chaudières électriques.

TABLEAU 2.—RÉSUMÉ DES PRINCIPALES DONNÉES, 1928-1929

La somme de \$1,055,731,532 de capital engagé dans cette industrie au 31 décembre était plus grande que celle de toute autre industrie manufacturière au Canada, la deuxième industrie étant la pulpe et le papier avec un capital

nanti de \$644.773.806 et la troisième que représentent les scieries avec un capital de \$181.685.699. L'augmentation de \$98.811.929 au cours de l'année ne comprend pas les déboursés des usines en construction, mais seulement les dépenses faites par les usines en opération le 31 décembre, bien que certaines de ces dépenses ont été faites pour des travaux nécessaires aux extensions futures. Les principaux travaux entrepris mais non terminés en 1929 comprennent une usine de 4,500 h.p. sur la rivière Black en Nouvelle-Ecosse et appartenant à la Avon River Power Company, un réservoir d'emmagasinement de 3.2 billions de pieds cubes de la St-John River Storage Company en Québec en vue d'améliorer les conditions d'énergie sur la rivière St-Jean au Nouveau-Brunswick, un autre réservoir d'emmagasinement sur la rivière Mattawin par la Shawinigan Water and Power Company et ayant une capacité de 33 billions de pieds cubes, et une usine de 90,000 h.p. (installation initiale), et un réservoir de 25 billions de pieds cubes par la James MacLaren Company, également en Québec. La Beauharnois Light, Heat and Power Company a commencé la construction d'un canal entre le lac St-François et le lac St-Louis, élargissements du fleuve St-Laurent. Le canal est tracé de façon à servir pour la navigation des vaisseaux océaniques et, en même temps, livrer de l'eau à un établissement d'énergie de capacité initiale de 500,000 h.p. Le canal est d'environ 15 milles de long et toute l'entreprise est la plus gigantesque au Canada. En Ontario, la Hydro Electric Power Commission a lancé un développement de 54,000 h.p. sur la rivière Nipigon à Alexander Landing et a installé la dixième unité de 58,000 h.p. dans son usine de Queenston, et la Canadian Northern Power Company a commencé la construction d'une usine de 13,000 h.p. sur la rivière Montréal. Au Manitoba, il y avait en construction deux grandes usines hydro-électriques de 225,000 h.p. et 96,000 h.p. sur la rivière Winnipeg. La Churchill River Power Company est à construire une usine de 84,000 h.p. dans le nord de la Saskatchewan et dans la Colombie Britannique les entreprises les plus vastes dans l'histoire de la province sont lancées. Celles-ci comprennent une usine électrique de 188,000 h.p. sur la rivière Lower Slave, à Ruskin, travaux de la Western Power Company of Canada, une usine d'énergie électrique de 56,000 h.p. sur la rivière Bridge et une usine d'énergie électrique de 32,000 h.p. sur la rivière Falls. Il y avait aussi de projetées et lancées plusieurs grandes lignes de transmission. Par ce qui précède, il est évident que l'industrie continuera d'ici deux ou trois ans à progresser sous le rapport du capital et de la construction et, avec un regain d'activité dans les affaires, elle donnera un rendement non atteint jusqu'ici.

Presque 65 pour cent du capital est englobé par les usines commerciales, bien que celles-ci n'aient donné que 57.68 p.c. des recettes totales. Ceci provient de la différence des marchés à la disposition des usines commerciales et municipales. Les usines commerciales jouissent d'un marché de gros plus vaste, comme les pulperies et papeteries, les mines, etc., tandis que les usines municipales ont un plus fort pourcentage de clients pour service domestique. L'augmentation de capital engagé dans les usines commerciales s'élève à \$70,860,871, ou 11.3 pour cent; celle des usines municipales n'atteint que \$27,951,058 ou 8 pour cent. Le rendement des usines commerciales a augmenté de 1,313,133,000 kilowatt-heures, soit 11.5 p.c., et celui des usines municipales, de 311,578,000 kilowatt-heures ou 6.4 pour cent.

TABLEAU 3.—USINES GÉNÉRATRICES

La définition d'une usine centrale électrique, telle qu'adoptée pour les fins de ce recensement, est donnée au commencement de ce rapport, et d'après cette définition, le nombre d'organisations commerciales et municipales vendant de l'énergie électrique correspondrait au nombre d'usines. Cependant, quelques organisations exploitent plusieurs réseaux qui se trouvent dans des municipalités différentes et qui ne sont pas raccordés par des lignes de transmission, tandis

que dans d'autres cas plusieurs municipalités sont desservies par une seule usine génératrice. Chaque organisation est inscrite comme une seule ou plusieurs, selon le rapport qu'elle fait. Si une organisation commerciale fait un rapport distinct pour chacune de ses compagnies subsidiaires, chaque telle compagnie subsidiaire est comptée comme une unité, tandis que si le rapport couvre toutes les compagnies, il n'est fait mention que d'une seule organisation. Le contrôle et le caractère en sont tellement variés qu'il ne serait pas pratique d'agir autrement. Les usines génératrices figurant dans ce tableau sont des usines individuelles, sans tenir compte du propriétaire ou de la localité. Dans certains cas, deux ou plusieurs usines sont exploitées par une compagnie, les unes se trouvant voisines ou à plusieurs milles de distance des autres.

Les usines génératrices accusent une diminution nette de 16 répartie également entre les usines commerciales et municipales. Les usines qui ont cessé leurs opérations étaient peu importantes, étant pour la plupart des usines à combustible de l'Alberta et de la Saskatchewan. Dans le Québec, il y eut une diminution nette de 5 usines commerciales et une augmentation d'une usine municipale; en Ontario les usines commerciales ont diminué de 7 en nombre et les usines municipales ont augmenté de 9, à la suite de l'acquisition d'usines commerciales par la Commission d'Énergie hydro-électrique d'Ontario et l'ouverture de nouvelles usines. En Alberta et en Saskatchewan, le mouvement a pris une toute autre direction, les organisations commerciales ont fait l'acquisition de plusieurs usines municipales. Le nombre d'usines municipales a diminué de 6 en Saskatchewan et de 5 en Alberta. Les usines commerciales en Saskatchewan ont diminué de 3, mais elles ont augmenté de 2 en Alberta. Le nombre d'organisations commerciales faisant rapport a diminué de 19 et celui des municipalités faisant rapport a diminué de 20. La diminution du nombre de municipalités faisant rapport comporte 8 usines dans la Saskatchewan, 4 en Alberta et 5 en Colombie Britannique: ces municipalités prennent leur énergie des usines commerciales. La diminution de 2 usines en Ontario et d'une en Nouvelle-Ecosse est contrebalancée par la diminution de 2 dans le Québec et d'une au Nouveau-Brunswick. La diminution du nombre d'organisations commerciales provient plus du fait de la centralisation que de la cessation des opérations.

TABLEAU 4.—CAPITAL

Le capital engagé dans l'industrie paraît sous quatre rubriques, savoir: génération, transmission, distribution et général. La génération comprend le capital nanti dans la construction des usines et leurs sites, les barrages, les portes d'écluse, les canaux de fuite, les réservoirs pour l'emmagasinement et le réglage du débit des eaux, réservoirs de surcharge et bassins d'emmagasinement, etc., ainsi que l'outillage des usines génératrices à l'exception de l'outillage de transmission et transformateurs d'accélération. La transmission comprend les argents dépensés dans la construction des usines de réception et leur établissement, les droits de passage des lignes de transmission et les transformateurs d'accélération. La distribution comprend les argents placés dans les sous-stations et leurs sites ainsi que le droit de passage des lignes de transmission, les tableaux de distribution et les transformateurs de ralentissement des stations des usines de réception et sous-stations, les lignes de distribution, les transformateurs de ligne, les compteurs, etc. L'Item «général» comprend les fonds placés dans les bureaux et leurs sites, l'ameublement, les matériaux et fournitures en main, l'argent en caisse, les comptes courants, frais d'opération et effets recevables. Le total représente tout le capital engagé dans l'industrie. Le capital total représente, au 31 décembre, les stations en exploitation, et ne comprend pas les placements faits par de nouvelles organisations non encore en opérations, mais, par contre, comprend les déboursés faits par ces organisations qui exploitent des usines en vue d'installations futures d'outilla

Par conséquent, les moyennes par h.p. et par k.v.a. sont augmentées par l'inclusion de tel capital. Les moyennes de capital engagé par mille de ligne de distribution et de transmission sont plus indicatives des divers types de ligne dans chaque province que celles du coût comparatif de ces divers types.

L'Ontario tient encore le premier rang avec un capital de \$422,486,669 et le Québec, second, avec \$421,000,578; ces deux provinces englobent 80 pour cent du capital total placé dans l'industrie. L'Ontario doit sa suprématie à ses forts placements dans les réseaux de distribution et de transmission, seul le capital engagé dans les usines génératrices est plus élevé dans le Québec à \$298,564,636, comparativement à \$221,449,751 en Ontario. L'augmentation au cours de l'année du capital total placé dans les usines du Québec est de \$49,250,383, soit 13 pour cent; dans les usines de l'Ontario cette augmentation de capital est de \$26,141,796 ou 6.6 pour cent; pour toutes les usines du Canada, elle est de \$98,811,929 ou 10.2 pour cent. La moyenne de capital engagé dans toutes les usines par k.v.a. est de \$252, variant d'une moyenne de \$320 en Ontario à \$181 au Manitoba. Les usines du Manitoba présentent les plus basses moyennes pour les usines génératrices avec \$69 par h.p. En Ontario et dans le Québec les moyennes sont de \$135 et \$133 respectivement, et il y a peu de différence dans les moyennes par mille pour les lignes de distribution et de transmission, mais le plus fort milage de l'Ontario augmente la moyenne totale du capital nanti par unité génératrice.

TABLEAU 5.—RECETTES

Les questionnaires de 1929 exigeaient une répartition nouvelle des recettes et des consommateurs, la base de telle répartition étant comme suit:

- (1) Service à la ferme.
- (2) Service domestique.
- (3) Eclairage et énergie de 50 k.w. et moins, pour des fins commerciales.
- (4) Eclairage et énergie de plus de 50 k.w., pour des fins commerciales.
- (5) Ventes aux compagnies de distribution.
- (6) Eclairage des rues.

Dans le présent rapport, (1) et (2) sont combinés sous le titre de service domestique, (3) est donné comme éclairage commercial et (4) comme énergie. Les recettes provenant des compagnies de distribution ne sont pas comprises, parce que l'addition de toutes les recettes y compris cet item constituerait un doublement. On verra par ce qui précède que les recettes provenant de l'énergie et de l'éclairage commercial et des consommateurs d'énergie en 1929 ne se comparent pas directement avec ces données pour les années précédentes. Le nombre de consommateurs est plus directement affecté que les recettes, par le transfert des petits consommateurs d'énergie de la classification d'énergie à celle d'éclairage commercial. La pratique d'exclure le double emploi des recettes est la même que pour les années précédentes, de sorte que la totalité des recettes et les recettes provenant du service domestique sont comparables. Les recettes provenant de l'éclairage des rues pour les années précédentes étaient comprises dans les recettes d'éclairage. Comme on pouvait s'y attendre, lorsque les questionnaires furent modifiés toutes les usines n'étaient pas en mesure de faire la répartition exacte des données et, de là, la nécessité d'en établir des estimations; cependant, les données sont assez exactes pour les subdivisions des recettes et des consommateurs.

En calculant la moyenne des recettes par kilowatt-heure pour toutes fins, l'énergie générée dans le Québec et transmise à l'Ontario pour la consommation est comprise dans les calculs faits pour les deux provinces. Les usines du Québec donnent les plus basses moyennes à .47 cent. Le fort volume d'énergie vendue aux pulperies et papeteries et à d'autres tels consommateurs est en

quelque soit responsable de cette basse moyenne; la moyenne des recettes par consommateur d'énergie est de \$8,350, comparativement à \$1,828 en Ontario, à \$1,019 au Manitoba et à \$1,067 en Colombie Britannique. La moyenne des recettes par kilowatt-heure dans les autres provinces est comme suit: Manitoba, .58 cent; Ontario, .76 cent; Colombie Britannique, .88 cent; Nouveau-Brunswick, 1.76 cents; Alberta, 2.14 cents; Nouvelle-Ecosse, 2.87 cents; Saskatchewan, 3.49 cents et l'Île du Prince-Edouard, 7.45 cents. L'effet des ventes en gros volume est indiqué au Nouveau-Brunswick où la plus grosse usine de la province vend toute son énergie à deux compagnies de papier. La moyenne des recettes par kilowatt-heure au Nouveau-Brunswick en 1928, avant la mise en opération de cette usine, était de 2.57 cents et en 1929 elle avait diminué à 1.76 bien que le tarif général pour l'éclairage et l'énergie au Nouveau-Brunswick fût le même pour ces deux années. Une baisse semblable, bien qu'un peu moins prononcée, fut enregistrée au Manitoba lorsqu'une immense papeterie fut lancée. Ce qui précède démontre la nécessité de considérer la nature des marchés dans la comparaison des recettes d'usines individuelles ou groupes d'usines.

La moyenne des recettes par consommateur du service domestique est de \$2 à \$3 par mois, et celle des recettes provenant des consommateurs d'éclairage commercial est également uniforme, mais celles des consommateurs d'énergie, comme on peut s'y attendre, accusent de fortes différences, variant de \$8,350 en Québec à \$476 en Alberta. La mise à part des petits consommateurs d'énergie est responsable de telles fortes augmentations comparées à celles des années précédentes.

TABLEAU 6.—DÉPENSES

Les dépenses ne comprennent que quatre item: (1) les salaires et gages, (2) le combustible, (3) les taxes et (4) le coût de l'énergie. Ce dernier représente une dépense interindustrielle et pourrait bien être omis des dépenses de l'industrie prise dans son ensemble. Cependant, il indique l'étendue du pouvoir d'achat des différents groupes d'usines. Les salaires et gages n'ont augmenté que de \$744,401, ou 3.1 p.c., mais le coût du combustible accuse une augmentation de \$735,490, soit 32 pour cent. Les usines commerciales ont payé \$4,464,299 en taxes, soit 90 p.c. du total. Près des deux tiers des taxes payées par les usines municipales l'ont été par les usines ontariennes, la Commission provinciale payant la forte partie de ces impôts. Au Manitoba, en Saskatchewan et en Alberta, ce sont quatre organisations municipales qui ont payé la plus forte partie des taxes, mais dans la plupart des municipalités le réseau d'éclairage municipal ne paye pas de taxes.

TABLEAU 7.—PERSONNEL

Le nombre d'employés a augmenté de 309 ou 1.9 p.c., 73 dans les usines commerciales et 236 dans les usines municipales. Les usines d'Ontario englobent 42.6 p.c. du total des employés; le Québec, 24.6 p.c.; la Colombie Britannique et le Yukon, 10.0 p.c., le Manitoba, 8.3 p.c.; l'Alberta, 4.6 p.c., la Saskatchewan et la Nouvelle-Ecosse, 3.8 p.c. chacune, le Nouveau-Brunswick, 2.0 p.c., et l'Île du Prince-Edouard, .24 pour cent. Ces pourcentages suivent de près les pourcentages des consommateurs dans chaque province. L'Ontario donne le plus fort pour cent à 41.6 du total des consommateurs; le Québec vient en deuxième lieu avec 28.4 p.c.; la Colombie Britannique et le Yukon, 9.8 p.c.; l'Alberta, 4.7 p.c.; la Saskatchewan, 3.8 p.c.; la Nouvelle-Ecosse, 3.1 p.c., le Nouveau-Brunswick, 2.4 p.c. et l'Île du Prince-Edouard, .29 pour cent. Il est évident que le nombre d'employés est plus rapproché du nombre de consommateurs que du rendement ou de la dimension des usines génératrices.

TABLEAU 8.—CONSOMMATEURS

L'explication des changements apportés aux questionnaires de 1929 est donnée plus haut, au chapitre du tableau 5—«Recettes», et par suite de ces changements le total des consommateurs et clients du service domestique seulement souffre la comparaison avec les données correspondantes des années précédentes. Les consommateurs d'éclairage commercial ont augmenté en nombre par l'inclusion des petits consommateurs d'énergie, tout comme le nombre des consommateurs d'énergie a diminué en proportion. Le nombre moyen des consommateurs de service domestique par 100 de population est basé sur les estimations officielles de la section de la démographie du Bureau pour 1929. Le Colombie Britannique donne encore la plus grande densité de 21·90; l'inclusion du Yukon ayant eu peu d'effet sur les données. L'Ontario vient en deuxième avec 16·58; le Québec, 13·86 et le Manitoba, 11·18. Toutes les provinces accusent des augmentations et la densité pour tout le Canada a augmenté de 12·50 en 1928 à 13·19, soit 5·5 pour cent. Les consommateurs d'électricité pour l'éclairage des rues comprennent toutes les municipalités ayant leur système d'éclairage des rues, que celui-ci soit la propriété de la municipalité ou d'une usine commerciale.

TABLEAU 9.—MILLES DE LIGNES SUR POTEAUX

La longueur en milles de lignes sur poteaux est répartie en deux divisions, (a) la transmission qui comprend les lignes partant des usines génératrices pour atteindre les usines de réception, et (b) la distribution qui comprend les lignes partant des stations de réception jusqu'aux sous-stations pour atteindre les consommateurs et, si le courant n'est pas intensifié dans une usine quelconque pour la transmission, toute la longueur de lignes de ce système est comprise dans le nombre de milles de lignes de distribution. Ces lignes sont mesurées sans tenir compte du nombre de circuits portés sur les poteaux ou pylones.

L'Alberta et la Saskatchewan rapportent beaucoup d'activité dans l'extension des lignes de transmission raccordant les municipalités qui, antérieurement, étaient desservies par des usines génératrices locales. Le milage de ligne de transmission sur poteaux dans la Saskatchewan s'est accru de 382 milles en 1928 à 1,006 milles; dans l'Alberta, il a augmenté de 1,578 milles en 1928 à 1,929 milles. Les autres provinces rapportent également des augmentations considérables, le total accusant un gain de 2,697 milles, ou 19 pour cent. Il s'est aussi produit des augmentations dans chaque province sous le rapport du milage de distribution, la plus prononcée se trouvant dans l'Ontario qui rapporte 1,160 milles. Dans le Québec cette augmentation se chiffre à 893 milles et en Colombie Britannique elle est de 279 milles. Du nombre total de milles de ligne de distribution, l'Ontario englobe 46 pour cent, Québec 20 pour cent et la Colombie Britannique 11 pour cent.

TABLEAU 10-11-12.—OUTILLAGE

L'outillage des usines de génération est divisé en deux classes, les usines principales et les usines auxiliaires. Les usines auxiliaires comprennent tous les engins à vapeur, turbines à vapeur et moteurs à combustion interne ainsi que les dynamos mues par ces engins, dans les usines hydroélectriques, et tout l'outillage des usines non génératrices. Tout le reste de l'outillage est classifié comme appartenant à l'usine principale et comprend les roues et turbines hydrauliques ainsi que les générateurs mus par la force hydraulique dans les usines hydroélectriques et tout l'agencement dans les usines se servant exclusivement de combustible. Il est très possible que quelques-unes des usines à combustible ayant un outillage auxiliaire auquel elles puissent recourir dans les cas d'urgence ou pour les maxima de charge imprévus et que quelques usines hydrauliques ayant un outillage hydraulique supplémentaire pour de

telles fins, aient mentionné ces outillages auxiliaires comme faisant partie de l'usine principale. Bien qu'un très petit nombre des usines hydroélectriques aient recouru à leur usine à vapeur plus ou moins régulièrement pendant la période d'eau basse ou pendant les périodes de très forte demande, la plus grande partie de cet outillage et de sa production est réservée pour les cas de stricte urgence.

L'augmentation de l'outillage des usines auxiliaires de 12,655 h.p. est due en grande partie à l'installation de nouvelles turbines à vapeur de 6,667 h.p. par la East Kootenay Power Company à Fernie, Colombie Britannique, destinées à supplémenter leur pouvoir hydraulique pendant les basses eaux, ainsi qu'à l'acquisition par la Calgary Power Company de plusieurs petites usines à combustible qui furent classifiées comme auxiliaires.

L'énergie primaire d'usines principales accuse une augmentation de 12,655 h.p., répartie par provinces comme suit: Québec, 159,428 h.p.; Nouveau-Brunswick, 50,323; Ontario, 40,235, et Alberta, 20,180. Les usines du Québec englobent 45.0 pour cent de l'outillage total tel que mesuré en h.p.; l'Ontario en détient 32.6 pour cent. La capacité de toutes les roues hydrauliques représente presque 96 pour cent du total pour les usines principales et plus des deux tiers de la capacité génératrice des usines à combustible se trouvent dans les usines de la Saskatchewan et de l'Alberta, la Saskatchewan n'ayant pas d'usines hydrauliques.

TABLEAU 13.—CLASSIFICATION DE L'OUTILLAGE DES USINES CENTRALES

En 1921 l'on comptait 28 roues et turbines hydrauliques pouvant développer 15,000 h.p. et plus, soit une capacité moyenne de 17,410 h.p.; en 1929, il y en avait 91 dont la capacité moyenne était de 29,202 h.p., leur capacité totale étant plus de la moitié de tout l'outillage des usines primaires. Les moteurs à vapeur à double effet ont subi une baisse graduelle tant en nombre que sous le rapport de la capacité totale, tandis que les turbines à vapeur ont augmenté en nombre, en capacité totale et en dimensions, les turbines d'une capacité de 5,000 h.p. et plus augmentant de 4 en 1921 à 9 en 1929. Les moteurs à combustion interne ont aussi augmenté en nombre, mais non en moyenne de capacité, ces moyennes étant de 75.6 h.p. en 1921 et de 68.3 h.p. en 1929. Les dynamos c.d. ont également augmenté en nombre, surtout ceux de petites dimensions, mais les unités de plus de 200 k.w. ont diminué de 20 en 1921 à 7 en 1929. La plupart des dynamos c.d. sont raccordées à des moteurs à combustion interne et 91 pour cent d'entre elles peuvent développer moins de 50 k.w. et une moyenne de 12 k.w.

TABLEAU 14.—ÉNERGIE ÉLECTRIQUE PRODUITE

Le courant électrique généré est la production des usines génératrices moins l'énergie utilisée dans l'opération de ces usines et, par conséquent, comprend toutes les pertes dans les transformateurs et les lignes de transmission se produisant entre l'usine génératrice et le consommateur définitif. Toutes les grandes usines mesurent par compteurs leur production, et celles qui n'ont pas de compteurs par k.h., estiment aussi approximativement que possible leur rendement en k.h. Les capacités indiquées en k.v.a. sont celles des dynamos à la fin de l'année, tant dans les usines principales que dans les usines auxiliaires des stations génératrices, mais les proportions de production relativement à la capacité moyenne indiquée sont calculées sur la quantité de k.h. générés, et la capacité des dynamos multipliée par le nombre d'heures pendant l'année au cours de laquelle le courant a été produit. Ainsi la plus grande capacité d'une dynamo de 1,000 k.v.a., pour l'année serait de 8,760,000 k.h. mais si elle a été installée le 30 novembre son maximum de rendement serait réduit à seulement 744,000 k.h. Conséquemment, ces proportions sont directement comparables

pour chaque année, sans tenir compte des dates auxquelles de fortes additions sont faites à la puissance génératrice de l'industrie et les hausses et les baisses de ces proportions ne peuvent qu'indiquer la position relative de la demande par rapport à l'offre sur une base de k.h. Quant à la proportion de la production comparée au maximum de capacité, il s'est produit une diminution de 51.2 p.c. en 1928 à 50 p.c. en 1929, bien que la capacité génératrice à la fin de l'année n'accuse pas une si forte augmentation que durant l'année précédente. La proportion de 50 p.c. signifie que si les générateurs des usines principales et auxiliaires avaient été en pleine activité pendant toute l'année, la production aurait atteint un chiffre double de la production inscrite, (le volume exigé par l'usine doit nécessairement en être déduit). Ceci représente une proportion élevée par l'ensemble de l'industrie; la proportion correspondante pour les usines des Etats-Unis en 1927, basé sur la capacité à la fin de l'année, n'était que de 33 pour cent. Il va sans dire que les variations sur les marchés respectifs expliquent en grande partie une telle différence. Une grosse usine canadienne vendant une forte partie de sa production aux pulperies et aux papeteries, donne une proportion de 72 pour cent et quelques autres grosses usines donnent des proportions de plus de 60, ce qui augmente de beaucoup les proportions atteintes par toutes les usines réunies.

D'après une analyse des usines qui ont établi des calculs séparés quant à leurs consommateurs, les recettes et les consommations des clients du service domestique, le Manitoba, avec le plus bas taux d'un centin le kilowatt-heure, représente la plus forte moyenne de consommation de plus de 3,000 kilowatt-heures et, sauf pour la Saskatchewan, donne le plus fort montant de facture à \$35.95 par année. Cette forte moyenne de consommation est en grande partie due aux conditions à Winnipeg où un nombre relativement élevé de consommateurs se servent d'électricité pour la cuisine et pour le chauffage de l'eau. Une telle préférence pour l'électricité est évidemment due à son bas prix, car bien que le charbon y soit plus dispendieux qu'à Montréal et à Toronto, les seules plus grandes villes au Canada, le prix du gaz n'est que de \$1.01 le M pds cubes, comparativement à \$1.05 à Montréal et 85 cents à Toronto. La moyenne de consommation par consommateur inscrit pour le service domestique en Ontario était d'environ 1,500 kilowatt-heures par année; en Colombie Britannique, cette moyenne est de 930 kilowatt-heures et en Québec, de 630 kilowatt-heures.

En ce qui est des gros consommateurs d'énergie, le Québec donne la plus forte moyenne de consommation d'environ 2,400,000 kilowatt-heures par année; il donne aussi la plus basse moyenne de recettes qui est d'environ .32 cent. Les statistiques pour l'Ontario ne sont pas complètement distinctes lorsqu'il s'agit de la consommation; mais pour les usines qui ont fait cette distinction dans leurs calculs, la moyenne est de 819,000 kilowatt-heures par année à un taux moyen de .46 cent le kilowatt-heure. Au Manitoba, le chiffre de consommation est moins élevé à 292,000 kilowatt-heures, mais le taux est également moins fort à .35 cent. La Colombie Britannique vient en quatrième avec une moyenne de consommation de 171,000 kilowatt-heures à .61 cent le kilowatt-heure. Dans les autres provinces, la moyenne des taux varie jusqu'à 1.71 cent. Ces chiffres ne sont qu'approximatifs et devraient être considérés comme tels. C'est la première année que de telles distinctions sont exigées et elles ne représentent que des estimations. Lorsque nous aurons des données plus exactes, il sera possible d'avoir des statistiques plus fiables; toutefois, ce qui précède montre clairement la différence entre la consommation et le tarif pour les clients inscrits au service domestique et les gros consommateurs d'énergie. Il est évident que les facteurs servant de base à ces divers taux ne sauraient être mis en tableaux, bien que l'on ne doive pas les ignorer en établissant des comparaisons.

TABLEAU 15.—COMBUSTIBLE

Le coût total du combustible employé par les usines auxiliaires des stations non-génératrices et des stations hydrauliques, ainsi que par les usines à combustible, s'est élevé à \$3,015,895, comparativement à \$2,280,405 en 1928, les fortes augmentations étant de \$416,746 en Colombie Britannique et le Yukon, \$196,820 en Saskatchewan et de \$70,738 en Alberta. En convertissant tout le combustible en tonnes équivalentes de charbon bitumineux avec une valeur calorifique de 13,000 U.T.B. par livre, on arrive à une moyenne de consommation d'environ 2.95 livres de charbon par kilowatt-heure de rendement. Environ 25 pour cent du coût total du combustible est pour l'huile combustible et la plus grande partie de celle-ci a été employée dans les provinces de l'Ouest où le coût moyen est de 5.87 cents le gallon.

NOTICE SUR LES FORCES HYDRAULIQUES DU CANADA

PAR LE

Service des Forces Hydrauliques et du Bureau Hydrométrie

Bien que l'emploi de l'énergie provenant des cours d'eau en descente vers la mer remonte à une époque lointaine, le développement hydraulique sur une grande échelle ne date que de l'introduction du générateur et du transformateur électriques, il y a une quarantaine d'années. Depuis cette époque, l'énergie hydraulique est devenue un facteur puissant de développement industriel au Canada. Les sources inépuisables d'énergie hydraulique distribuées d'un océan à l'autre ont fait du Canada un pays manufacturier de première importance. L'énergie à bon marché provenant du développement des ressources hydrauliques a attiré de l'étranger des industries de tout genre dont les produits ont augmenté d'une façon remarquable le commerce d'exportation du Canada; d'autre part et de pair avec un tel développement industriel, la distribution générale de l'énergie hydro-électrique pour fins domestiques dans les centres urbains, sub-urbains et ruraux a contribué énormément à élever de niveau de vie d'une grande proportion de la population.

L'installation totale de pouvoirs hydrauliques au Canada s'est accrue de 71,515 h.p. en 1890 à 6,125,012 h.p. au début de 1931, tandis que les travaux en construction ajouteront un autre demi-million de h.p. d'ici à la fin de l'année. Plus de 85 pour cent des usines actuelles servent à la distribution générale par les usines électriques centrales, et le rapport ci-contre du recensement des usines électriques centrales pour 1929 montre que 98 pour cent de l'électricité distribuée est produite par les pouvoirs d'eau.

Conformément aux stipulations de l'Acte de l'Amérique britannique du Nord, de 1867, l'administration des pouvoirs d'eau au Canada relève tant du gouvernement fédéral que des provinces.

L'autorité fédérale s'exerce sur les pouvoirs d'eau du Yukon et des Territoires du Nord-Ouest, le contrôle administratif relevant du Service des Forces Hydrauliques et du Bureau Hydrométrie du ministère de l'Intérieur qui, en même temps, poursuit des travaux d'enquête dans le reste du pays en coopération avec les autorités provinciales qui sont responsables de l'administration de ces ressources dans leurs provinces respectives. Lorsqu'il s'agit de projets d'emménagement des eaux pour des fins de canaux, c'est le ministère des Chemins de fer et Canaux qui fait autorité, tandis que celui des Travaux Publics

est chargé de la protection des systèmes de navigation à travers le pays et, de ce fait, administre le développement des cours d'eau navigables en matière d'emmagasinement des eaux et de développement hydraulique.

Etant donné que les terres dans les provinces de la Colombie-Britannique, de l'Ontario, du Québec, du Nouveau-Brunswick et de la Nouvelle-Ecosse étaient la propriété de ces provinces avant la Confédération, le contrôle administratif des forces hydrauliques situées dans ces provinces relevait des diverses assemblées législatives; à l'heure actuelle, l'administration de ces pouvoirs est exercée par la Commission des Travaux publics en Nouvelle-Ecosse; par le ministère des Terres et Mines au Nouveau-Brunswick; par le ministère des Terres et Forêts en Québec et par le même en Ontario, et par le ministère des Terres en Colombie-Britannique. Dans le cas de l'Île du Prince-Edouard, par suite de la concession de presque toute l'Île à des particuliers en 1767, tous les pouvoirs d'eau sont sortis de la possession de la Couronne. Toutefois, le gouvernement de la province a tiré avantage des travaux d'enquête coopératifs sur les ressources hydrauliques dont il est question plus haut pour le recueil et la publication des renseignements sur l'étendue et la disponibilité des ressources hydrauliques de la province.

Les terres de la Couronne situées dans les provinces de Manitoba, de Saskatchewan et d'Alberta, et de la zone des chemins de fer et le Bloc de la Rivière La Paix et de la Colombie-Britannique, au sujet desquelles aucuns titres n'avaient été jusque-là accordés, furent transférées au contrôle des assemblées législatives des provinces mentionnées, par l'adoption en 1930 de la Loi des ressources naturelles du Manitoba, de la loi des ressources naturelles de la Saskatchewan, la Loi des ressources naturelles de l'Alberta et la Loi de la zone du chemin de fer, et du Bloc de la rivière La Paix, l'administration active des pouvoirs d'eau étant sous la direction du ministère des Mines et des Ressources naturelles au Manitoba, du ministère des Ressources Naturelles en Saskatchewan, par le ministère des Ressources Naturelles en Alberta et du département des Terres de la Colombie-Britannique pour ceux de la zone des Chemins de fer. Ce même département, par suite d'une entente entre le Dominion et la province, avait administré les pouvoirs d'eau appartenant au Fédéral et situés dans la zone du Chemin de fer à dater de 1912 jusqu'à la date de leur transfert à la province.

En Nouvelle-Ecosse, au Nouveau-Brunswick, en Ontario, au Manitoba et en Saskatchewan, des commissions ont été nommées en vue de développer ou d'acheter des pouvoirs d'eau et pour distribuer ou transmettre l'énergie électrique. Dans ce domaine le développement intense s'est fait en Ontario par l'entremise de la Commission d'Énergie hydro-électrique établie en 1905. En général, cette Commission agit comme administrateur pour les municipalités qui, conjointement, entreprennent l'achat ou le développement de l'énergie hydro-électrique; elle agit aussi à titre de fidéicommissaire pour le gouvernement provincial, les opérations financières étant garanties par le gouvernement. Les Commissions d'énergie du Manitoba et de la Nouvelle-Ecosse, établies en 1919, et celle du Nouveau-Brunswick en 1920, remplissent à peu près les mêmes fonctions que la Commission d'Énergie hydro-électrique de l'Ontario. Dans la province de Québec, la Commission des Eaux courantes exerce ses activités sur l'inspection des rivières et sites de pouvoirs d'eau ainsi que dans la construction des bassins d'emmagasinement pour des fins d'énergie hydraulique.

Au cours de 1930, les nouvelles installations mises en opération ont donné un total de 397,850 h.p., tandis que plus de trois millions de h.p. seront fournis par des constructions en voie ou en perspective immédiate.

Au cours de l'année la province d'Ontario a occupé le premier rang avec un nouvel outillage capable de développer 136,000 h.p. et actuellement en opération. L'addition d'une dixième unité de 58,000 h.p. a complété l'installation de la station de Queenston de la Commission d'Énergie hydro-électrique d'Ontario. Cette usine qui est la plus puissante au Canada commande 560,000 h.p. La Commission a aussi complété son second développement sur la rivière Nipigon à Alexander Landing où 54,000 h.p. sont développés et où elle a en voie un développement conjoint avec la Ottawa Valley Power Company de Chats Falls, sur la rivière Ottawa, une installation interprovinciale. Dans l'usine conjointe située à travers la frontière Ontario-Québec, on est à installer 224,000 h.p. faisant partie d'une installation de 280,000 h.p. en perspective. La livraison de l'énergie doit se faire à dater d'octobre 1931 et toute la production doit être transmise à Toronto pour la distribution par la Commission.

Grâce à l'achèvement d'un développement de 13,000 h.p. à Upper North sur la rivière Montréal par la Canada Northern Power Corporation, on pourra fournir l'énergie aux camps miniers du nord d'Ontario et du Québec. De la même façon le district de Sudbury pourra se procurer son énergie additionnelle d'une installation de 330,000 h.p. en construction aux gorges du Bas Abitibi par la Ontario Power Service Corporation Limited. La Algoma District Power Company a jointé une deuxième unité de 11,000 h.p. à son usine de High Falls, rivière Michipicoten.

Dans la province de Québec, cinq organisations ont des installations nouvelles donnant en tout 122,000 h.p.

La McLaren-Québec Power Company a installé des générateurs de 90,000 à son développement de 120,000 h.p. High Falls, sur la rivière Lièvre et a complété des arrangements préliminaires pour la construction d'un deuxième développement de 130,000 h.p. près de la jonction de la même rivière avec l'Ottawa. La Shawinigan Water and Power Company a ajouté une unité de 25,000 h.p. à son usine de Grand'Mère; elle ajoute aussi une unité de 30,000 h.p. à son usine de La Gabelle et est à construire une nouvelle usine aux Rapides Blancs en remontant le St-Maurice qui développera un pouvoir initial de 160,000 h.p. Au cours de l'année, il s'est fait plusieurs petites installations et l'on fait beaucoup de progrès sur les travaux de la Beauharnois Power Corporation sur le St-Laurent, de la Alcoa Power Company sur la rivière Saguenay et le développement conjoint de la Ottawa Valley Power Company et de la Commission de l'Énergie Hydro-électrique d'Ontario sur la rivière Ottawa.

En Colombie Britannique, la British Columbia Power Corporation a ajouté une nouvelle unité de 18,000 h.p. à son usine de la rivière Jordan et a installé la première de trois unités de 47,000 h.p. à son usine de Ruskin sur la rivière de l'Esclave. La Northern British Columbia Power Company a installé la première unité de 6,000 h.p. à son usine de 32,000 h.p. sur la rivière Falls.

La première usine hydro-électrique dans la province de Saskatchewan fut mise en opération au cours de 1930, lorsque la Churchill River Power Company commença à fournir de l'énergie aux Mines Flin Flon ainsi qu'aux mines et aux smelters de Cold Lake. L'installation initiale comporte 42,000 h.p. et l'usine est construite pour développer une énergie additionnelle de 42,000 h.p.

Dans les Provinces Maritimes, la quatrième unité de 20,000 h.p. a été ajoutée à l'usine de la St-John River Power Company à Grand Falls, Nouveau-Brunswick, tandis que la Avon River Power Company complétait un nouveau développement de 4,500 h.p. sur la rivière Black en Nouvelle-Écosse.

Le Service des Ressources Hydrauliques et du Bureau Hydrométrique, en coopération avec diverses organisations provinciales compétentes, a effectué un système coordonné d'analyses en matière de ressources hydrauliques dans

le but de présenter les ressources hydrauliques du Dominion sur une base fiable et uniforme. Comme résultat d'une nouvelle analyse soignée et de calculs faits par le Bureau, le tableau suivant donne les ressources hydrauliques totales développées et en disponibilité dans la Puissance:

POUVOIRS D'EAU POTENTIELS ET DÉVELOPPÉS AU CANADA, JANVIER 1931

Province	Force motrice utilisable en 24 heures, à 80 p.c. du débit		Turbines installées
	Au minimum habituel du débit	Au débit normal (pendant 6 mois)	
1	2 h.p.	3 h.p.	4 h.p.
Ile du Prince-Edouard.....	3,000	5,300	2,439
Nouvelle-Ecosse.....	20,800	128,300	114,224
Nouveau-Brunswick.....	68,600	169,100	113,681
Québec.....	8,459,000	13,064,000	2,718,130
Ontario.....	5,330,000	6,940,000	2,088,055
Manitoba.....	3,309,000	5,344,500	311,925
Saskatchewan.....	542,000	1,082,000	42,035
Alberta.....	390,000	1,049,500	70,532
Colombie Britannique.....	1,931,000	5,103,500	630,792
Yukon et Territoires du Nord-Ouest.....	294,000	731,000	13,199
Canada.....	20,347,400	33,617,200	6,125,012

Les chiffres aux colonnes 2 et 3 sont basés sur les rapides, chutes et emplacements de pouvoir dont la chute ou la tête concentrable est définitivement connue et suffisamment établie. Il existe encore bien des chutes de plus ou moins grande capacité, d'un océan à l'autre, qui ne sont pas encore enregistrées. La proportion entre les usines installées et la somme de pouvoir à développer indique que les ressources hydrauliques du Dominion, telles qu'enregistrées, permettraient l'installation de turbines capables de développer 43 millions de h.p.

Les chiffres cités au tableau-ci-haut peuvent être considérés comme représentant le minimum de l'actif en ressources hydrauliques du Dominion. A titre d'exemple, l'analyse détaillée des ressources hydrauliques au Nouveau-Brunswick et en Nouvelle-Ecosse indique que ces deux provinces possèdent, tenant compte de toutes les facilités d'emménagement qui y existent, au moins de 200,000 à 300,000 h.p. d'énergie commerciale.

Avec un développement de 617 h.p. par 1,000 de population, le Canada est bien en avant des autres pays en matière d'utilisation et de disponibilité d'énergie hydro-électrique. Les immenses réserves de force hydraulique non encore exploitées sont la base du développement futur des autres ressources naturelles, surtout si elles sont convenablement combinées avec le développement et l'utilisation de nos ressources de combustible si connues.

OTTAWA, 13 mai 1931.

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